

1968

Developing a Comprehensive Model of Motivation and Performance.

Kae Hoon Chung

Louisiana State University and Agricultural & Mechanical College

Follow this and additional works at: https://digitalcommons.lsu.edu/gradschool_disstheses

Recommended Citation

Chung, Kae Hoon, "Developing a Comprehensive Model of Motivation and Performance." (1968). *LSU Historical Dissertations and Theses*. 1384.

https://digitalcommons.lsu.edu/gradschool_disstheses/1384

This Dissertation is brought to you for free and open access by the Graduate School at LSU Digital Commons. It has been accepted for inclusion in LSU Historical Dissertations and Theses by an authorized administrator of LSU Digital Commons. For more information, please contact gradetd@lsu.edu.

**This dissertation has been
microfilmed exactly as received**

68-10,726

**CHUNG, Kae Hoon, 1937-
DEVELOPING A COMPREHENSIVE MODEL OF
MOTIVATION AND PERFORMANCE.**

**Louisiana State University and Agricultural and
Mechanical College, Ph. D., 1968
Business Administration**

University Microfilms, Inc., Ann Arbor, Michigan

DEVELOPING A COMPREHENSIVE MODEL OF
MOTIVATION AND PERFORMANCE

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Management and Marketing

by

Kae Hoon Chung

B.A. Seoul National University, 1959

M.B.A., Louisiana State University, 1965

January, 1968

ACKNOWLEDGMENTS

I am greatly indebted to Dr. Leon C. Megginson, Professor of Management, for ideas and insights into the subject and for his everlasting encouragement, guidance, and discipline which made this study possible.

My thanks also are extended to Dr. Raymond V. Lesikar, Professor and Head, Department of Management and Marketing, for understanding and help; Dr. Herbert G. Hicks, Associate Professor of Management; Dr. William E. Swyers, Associate Professor of Accounting; Dr. Vincent E. Cangelosi, Professor of Business Statistics, for their guidance and constructive criticism.

Special gratitude is due to Mrs. Bruce Gunn; Mrs. James M. Hiemenz; and my wife, Young, who helped transform the ideas into reality.

TABLE OF CONTENTS

CHAPTER	Page
ACKNOWLEDGMENT	ii
LIST OF TABLES	viii
LIST OF FIGURES.	ix
ABSTRACT	x
I. GENERAL INTRODUCTION	1
Need For The Study of Motivation.	1
Arguments For and Against Partial Theories of Motivation.	5
Need for a Comprehensive Model of Motivation	8
Purpose of the Study.	11
Methodology of the Study.	14
Basic Assumptions and Hypotheses.	16
Limitations of the Study.	18
Concepts and Definitions.	22
Theory and Model	22
Needs and Motives.	23
Incentives	25
Perception	26
Motivation	27
Preview of the Study.	28
II. SOME CLASSICAL DOCTRINES AND THEORIES OF MOTIVATION	30
Philosophical Interpretations of Human Motivation	31
The Doctrine of Animism.	31
The Doctrine of Hedonism	32
The Doctrine of Virtue	32
The Christian Doctrine	33

Physiological Mechanism.	33
The Doctrine of Self-Preservation.	34
British Utilitarianism	34
The Mental Process Doctrine.	35
The Doctrine of Evolution.	36
The Doctrine of Capitalism	36
Confucianism and Taoism.	37
Charisma and Legitimate Order.	37
Evaluation of Classical Doctrines.	38
Classical Doctrines of Instinct	38
Freud's Instincts.	38
McDougall's Instincts.	40
Vebelin's Instincts	42
Evaluation of Instinct Doctrines	43
Classical Learning Theories of Motivation	44
Thorndike's Learning Theory.	44
Pavlov's Conditioned Reflex.	45
Evaluation of Classical Learning Theories	47
Classical Perceptual Theories of Motivation	48
Woodworth's Internal Organic State	48
Tolman's Intervening Variables	49
Evaluation of Classical Perceptual Theories	51
Summary and Conclusion.	51
 III. NEED THEORIES OF MOTIVATION.	 53
Drive Theories of Motivation.	54
Young's Theory of Drive.	54
Hull's Theory of Drive	55
Evaluation of Drive Theory	56
Primary Need Theories of Motivation	57
Allport's Theory of Need	57
Murray's Theory of Needs	58
Evaluation of Classical Needs Theories	59
Schindler's Basic Psychological Needs.	60
Maslow's Need Hierarchy.	61
Operations of Human Needs in Organizations.	62
Hicks' Vector Concept.	64
Maslow's Dynamic Process	66
Classification of Motivational Needs.	67
Myers' Motivational Needs.	68
Motives in Industry.	71

CHAPTER

Page

Achievement Motive	71
Competitive Motive	72
Affiliative Motive	73
Economic Motive.	74
Satisfaction and Motivation	76
Growth Psychologists	77
Human Relationists Movement.	78
March and Simon's Motivational Decision.	81
Summary and Conclusion.	83
 IV. INCENTIVE THEORIES OF MOTIVATION	 85
Principles of Incentives.	86
Principles of Primary and Secondary Reinforcement.	87
Lewin's Concepts of Valence and Conflict	89
Approach-Approach Conflict.	90
Avoidance-Avoidance Conflict.	90
Approach-Avoidance Conflict	90
Principles of Affective Processes.	93
Principles of Reward and Punishment.	94
Functions of Managerial Incentives.	97
Barnard-Simon's Equilibrium Theory	99
Katz's Incentive System.	100
Classification of Managerial Incentives	101
Financial Incentives	102
Supervision and Leadership	107
The Work Group	110
Job Content.	112
Promotional Opportunity.	115
Physical Environments.	117
Theory of Satisfiers and Dissatisfiers	118
Methods of Incentive Application.	122
Positive and Negative Approach	122
Matching Incentives and Needs.	124
Argyris' Incongruency.	127
Summary and Conclusion.	129
 V. PERCEPTIONAL THEORIES OF MOTIVATION.	 132
Perceptual Problems in Industrial Motivation	134
March and Simon's Perceptual Theory.	134
Dillman's Behavioral Expectations.	137

McGregor's Management Assumptions.	139
Katz's Management Assumptions.	141
Mosel's Subjective Probability	142
Influencing Factors of Perception	143
The Concept of Self.	144
Rogers' Self-Concept	144
Vroom's Ego-Involvement.	146
Cognitive Style and Attitude	147
Determinants of Cognitive Style.	149
Hereditary Elements	149
Reference Groups.	150
Broad Cultural Environment.	150
Perceptual Functions in Motivation.	151
Function of Cognitive Dissonance	151
Subjective Utility and Probability	154
Level of Aspiration.	158
Changes in Level of Aspiration	163
Methods of Influencing Perception	165
Summary and Conclusion.	168
 VI. DEVELOPING A COMPREHENSIVE MODEL OF MOTIVATION AND PERFORMANCE.	 170
First Stage Model: Ability and Motivation.	174
Theoretical Background of the Performance Model.	175
Empirical Studies for the Performance Model.	177
Evaluation of the Studies of Performance	181
Second Stage Model: A Comprehensive Model of Motivation.	181
Theoretical Background of the Motivation Model.	182
Empirical Studies for the Motivation Model.	188
Evaluation of the Motivational Studies	190
Third Stage Models: Partial Theories	191
Theoretical Background of the Partial Models	191
Model Building for Partial Theories.	193
Model for Motive.	193
Model for Incentive	194
Model for Expectancy.	195

CHAPTER	Page
A Comprehensive Model of Motivation and Performance.	196
Existing Comprehensive Models of Performance.	196
Evaluation of the Performance Models . .	198
A Predictive Model of Performance. . . .	199
Summary and Conclusion.	200
VII. SOME EMPIRICAL DATA FROM A STUDY OF THE COMPREHENSIVE MODEL.	201
Methodology and Procedure	204
Description of the Measures.	204
Motive Measures.	205
Incentive Measures	207
Expectancy Measures.	209
Motivation and Performance Measures. . .	211
Criteria For Selecting the Measures. . .	212
Statistical Treatments	214
Results of the Study.	216
Motive Measures and Performance.	216
Incentive Measures and Performance . . .	219
Expectancy Measures and Performance. . .	221
Motivation Measures and Performance. . .	224
Motivation, Ability, and Performance . .	227
Summary and Conclusion.	231
VIII. SUMMARY AND CONCLUSION	236
Methodology	242
Descriptions of the Measures	242
Criteria for Selecting the Measures. . .	244
Limitations of the Study	246
Results	247
Implications.	252
BIBLIOGRAPHY	256
APPENDIX I. QUESTIONNAIRE	273
APPENDIX II. INTERCORRELATIONS BETWEEN ITEMS.	279
VITA	282

LIST OF TABLES

TABLE		Page
1	Motivating Forces With Different Diffi- culties of Task	161
2	Intercorrelations Between Items in Motive .	206
3	Intercorrelations Between Items in Incentive	208
4	Intercorrelations Between Items in Expectancy.	210
5	Relationship Between Motive Measures and Levels of Performance	217
6	Incentive Measures and Differences of Performance	220
7	Expectancy Measures and Differences of Performance	222
8	Intercorrelations Between Motivational Measures, Ability, and Performance.	224
9	Intercorrelations Between Motivational Measures, Ability, and Performance.	226
10	Differences of Ability, Motivation, and Performance Among Various Performers.	228

LIST OF FIGURES

FIGURE		Page
1	Tolman's Concept of Intervening Variables .	50
2a	Needs as Vectors.	64
2b	Resultant Motive.	64
3	Unpleasant Task and Punishment Within a Boundary.	91
4	Combination of Reward and Punishment. . . .	92
5	Reward and Punishment	95
6	Three Stage Analysis of Performance Model .	172
7	Motivation and Performance.	178
8	Student Needs on Unidimensional Scale . . .	193

ABSTRACT

The primary purpose of this study was to develop a comprehensive model of motivation which would include a broad class of determinants of human motivation. As a first step for achieving this purpose, the partial theories of motivation were reviewed and reorganized. By reviewing other less comprehensive theories of motivation, the following objectives were achieved: (1) the limitations of partial theories of explaining human motivation were revealed; (2) the three major variables of motivation, e.g., needs, incentives, and perceptual variables, were identified; (3) the motivational factors in each major variable were classified; and (4) the partial theories of motivation were integrated into a comprehensive model of motivation.

In the comprehensive model, motivation (M) was hypothesized as a multiplicative function of needs (N), incentives (I), and expectancies (E), e.g., $M = f(N \times I \times E)$. This formula is similar to Atkinson's formula. However, it is different from some conceptualizations in determining

the strength of the major variables. Atkinson's theory of achievement motivation is mainly concerned with one particular need, namely the n Achievement need. Thus, it does not specify which motivational factors should be included under each major variable.

In the present study, however, various needs were taken into consideration in determining the resultant strength of a motive to do a task. The resultant strengths of incentive and expectancy of a task were found in this fashion.

The secondary purpose of this study was to relate the comprehensive model of motivation to the theory of job performance. In this context, performance (P) was hypothesized as a multiplicative function of ability (A) and motivation (M), e.g., $P = f(A \times M)$. This formula was originally hypothesized by Maier and tested by some scholars. However, previous studies of this problem did not specify the subvariables of motivation in the performance model. Thus, the author attempted to specify the subvariables of performance by integrating the comprehensive model of motivation into the performance model as expressed by the formula: $P = f(A \times N \times I \times E)$.

In order to support the comprehensive model of motivation and performance, an empirical study was

undertaken. The data were obtained from college students whose performances were measured in terms of final exam scores and whose abilities were represented by their college entrance exam scores. The motivational measures used in the study were obtained from questionnaires. Each student was asked to answer the questions by checking the most appropriate alternative on a five-point scale. Information obtained from the university records included both college entrance and final exam scores of the students.

The findings of the study basically supported the hypothesis that the joint effect of the major motivational variables is multiplicative rather than additive and that the joint effect of ability and motivation is also a multiplicative one. Consequently, the findings supported the multiplicative nature of the formula in the comprehensive model of motivation and performance: $P = f (A \times N \times I \times E)$.

Assigning weighting factors for each variable, the formula was specified as follows:

$$P = 48.5 A^{1.34} N^{1.19} I^{1.23} E^{1.24}$$

This formula can be used as a limited predictive model of performance of students when their academic activities in class are measured on a 200-point scale.

The correlation between the product of the model and performance was statistically significant. However, to be applicable in its present form in practical situations would require improvements in the measurement techniques and devices used.

The findings of the study may only be applicable to the particular universe studied--students. However, it was the author's feeling that the methodological approach used in the present study can also be utilized in analyzing and predicting other types of goal-seeking behavior.

CHAPTER I

GENERAL INTRODUCTION

Need For The Study Of Motivation

In evaluating administrative effectiveness in organizations, Rensis Likert states two major criteria: (1) productivity per man hour or some similar measure of the organization's success in achieving its productivity goals, and (2) job satisfaction and other satisfactions derived by employees or members of the organization.¹ These two criteria become the major variables in organizations that management has to deal with in achieving both organizational and individual goals. People organize, join, and remain in organizations to satisfy their needs while the organizations need people to accomplish their productivity goals. The survival of organizations depends upon these

¹Rensis Likert, "Motivation: The Core of Management," in Koontz and O'Donnell, (eds.), Management: A Book of Readings (New York: McGraw Hill, 1964), p. 355; R. Likert, New Patterns of Management (New York: McGraw Hill, 1961), pp. 5-6.

two interrelated and interdependent classes of objectives, for any deficiency in these variables leads to instability and failure of the organized cooperative systems.²

Interestingly enough, these two critical variables share one common element--motivation, as a common denominator in determining the level of satisfaction and productivity in organizations. Employees in an organization are motivated to satisfy or achieve their personal goals and they contribute to the organizational activities as a means of accomplishing their personal goals. In this sense, motivation is the key to the organizational effectiveness and its survival.

During recent decades the study of motivational problems in industry has been the major concern of industrial psychologists and managerial practitioners. And yet, employee motivation still presents everlasting problems in organizations for several reasons.

First, technological development during the past several decades alone could not solve the problems in organizational productivity. Instead, technological efficiency in large part depends upon human elements.

²Chester I. Barnard, The Functions of The Executive (Cambridge, Mass.: Harvard University Press, 1938), pp. 60-61.

Technological development is the product of human efforts and the operational efficiency of technology is subject to the manipulation of human volition. The technology that an organization has is a potential for higher productivity; but what actually brings the potential into productivity is the willingness of people who contribute to the activities.

Second, changing economic conditions of employees have created some motivational problems in industry. As the employees become economically independent, their dependency upon any one particular organization has been decreased. Consequently, the need for strong motivation on the part of employees, as a means of survival, to meet the demands of the organization has been decreased. Accordingly, the effectiveness of managerial exercise of traditional authority and financial rewards as a means of motivating employees has also declined.³ Since traditional means of motivating employees are losing their effectiveness as motivators, management requires a continuous development of more sophisticated methods of motivation.

Third, the increased demands for capable personnel, accompanied by wide-spread shortages of labor supply, have

³Douglas McGregor, Human Side of Enterprise (New York: McGraw-Hill, 1960), p. 27.

created conditions in which there is no urgent need for excellent performance, as a means of survival and security. The greater the number of alternatives to participate available for employees in the external environment, the less important the need to conform with one particular organizational demand.⁴ The problem becomes more critical in the areas of scientific, managerial, and professional personnel. Jobs in this advanced industrial society require more trained technical, scientific, managerial, and professional employees who have to pass through the necessary educational, training, and developmental processes which require highly sophisticated knowledge, motivation, and a long period of training. To meet the demands for trained personnel, organizations and society have to develop the means of motivation which will induce people to desirable occupations.

Finally, the decision of employees to participate and remain in an organization is not necessarily the same thing as the decision to contribute to organizational productivity.⁵ The aforementioned socio-economic conditions could

⁴James G. March and Herbert A. Simon, Organizations (New York: John Wiley and Sons, 1958), p. 58.

⁵Ibid., p. 48.

adequately satisfy the needs of employees at least at the level of economic and security needs. The achievement of individual goals in some parts does not automatically guarantee increased organizational productivity, for the satisfied employee may reduce his search behavior--motivation--unless he expects higher dimensional means of need satisfaction which can only be obtained through his contributions to the attainment of organizational goals.

Arguments For and Against Partial

Theories of Motivation

In order to analyze and explain the motivational problems in industry, many psychologists, industrial psychologists, and managerial practitioners have developed a variety of theories of, and approaches to, human motivation. Theorists have employed a variety of terms to describe the complexity of motivational phenomena, according to their own field of interests and specializations. For example, most industrial psychologists have developed the motivational theories in organizations in terms of human needs or motives, while most management scholars have developed the managerial theories of motivation in terms of incentives or inducements. Still another group of

scholars, led by Gestalt psychologists, have developed perceptual theories of motivation, stressing that perception is the only basic determinant of behavior for it ultimately determines the way people respond to their needs and their environmental stimuli. The tendency to stress one particular class of determinants of motivation has led to the development of such partial theories of motivation as need theory, incentive theory, and perceptual theory of motivation.

There are two types of arguments for the partial theories. First, the development of partial theories have contributed to the intensive studies of their own areas of specialization by which a macroscopic analysis can be carried out on the basis of profound experimental studies in each area. Thus, one strong argument for partial theories may be that these partial theories could better describe the mechanisms which fulfill the requirements at any particular system of motivational phenomena. This argument seems to be based on the assumption that the limited partial conceptual schemes are better equipped to deal with the partial systems of motivation, and thus the theories which will be used to describe the particular systems should be built upon the specific mechanisms of

partial theories. Although there is some truth in this argument, it neglects the fact that a partial theory can be evolved from a comprehensive model when the comprehensive model is decoded. In other words, a partial conceptual scheme can be derived from the logic of the comprehensive model construction.

The second argument is that a partial theory can have universal validity from the paramecium to human being. For instance, the behavioristic S-R (stimulus-response) theorists have tried to discover a universal law of learning which can be applied to any content of behavior by referring only to empty stimuli and empty responses without considering any intervening variables.⁶ In animal domains a stimuli may cause a response in an exactly predictable fashion, but in human domains there are many intervening variables that distort the precise relationship between stimuli and responses. Other unitary theorists of motivation such as perceptual theorist's "self-concept" and Freudian concept of "libido" have also attempted to discover a formula which can be applied to all situations. An

⁶James J. Asher, "Toward a Neo-Field Theory of Behavior," Humanistic Psychology, Vol. 4, No. 2 (Fall, 1964), p. 86.

partial theories. Although there is some truth in this argument, it neglects the fact that a partial theory can be evolved from a comprehensive model when the comprehensive model is decoded. In other words, a partial conceptual scheme can be derived from the logic of the comprehensive model construction.

The second argument is that a partial theory can have universal validity from the paramecium to human being. For instance, the behavioristic S-R (stimulus-response) theorists have tried to discover a universal law of learning which can be applied to any content of behavior by referring only to empty stimuli and empty responses without considering any intervening variables.⁶ In animal domains a stimuli may cause a response in an exactly predictable fashion, but in human domains there are many intervening variables that distort the precise relationship between stimuli and responses. Other unitary theorists of motivation such as perceptual theorist's "self-concept" and Freudian concept of "libido" have also attempted to discover a formula which can be applied to all situations. An

⁶James J. Asher, "Toward a Neo-Field Theory of Behavior," Humanistic Psychology, Vol. 4, No. 2 (Fall, 1964), p. 86.

analogy to this attempt is the Indian medicineman who tries to discover a wonder drug that can serve as a cure for all diseases.

Nevertheless, a thesis of this study is that the two approaches to motivational study are not necessary exclusive but tend to complement each other. First, the comprehensive model can be employed to analyze the general features of human motivation while the partial theories can be used to analyze particular systems of motivation. Second, in spite of the fact that the partial theories are limited to their own areas of interest, they constitute a part of the comprehensive model and they play a critical role in the comprehensive model. Third, the partial theories in the general framework become more meaningful, if the effects and contributions of motivational variables in each partial theory can be understood and evaluated within the framework of the whole. In essence, the interdependency between these two approaches, in fact, reinforces the development of the two approaches to motivational theory.

Need For a Comprehensive Model of Motivation

The prime shortcoming of partial theories is that these theories are so ethnocentric that they have no universal

applicability in analyzing, understanding, and explaining a general class of motivated behavior which has a variety of different motivational properties. The lack of a comprehensive model of motivation applicable to such a general class of motivated behavior in organizations handicaps the managers not only in understanding but also in finding a comprehensive and consistent approach to the problem of motivating employees. In the past, scholars in managerial motivation have long recognized the significance of the major variables independently (e.g., needs, incentives, and perception), but few researchers have attempted to deal with those major variables simultaneously. As a consequence, while much has been known about the separated areas of interest, little is known about the simultaneous interactions among these major variables.

The needs for the study directed to this type of problem and for a theoretical framework capable of dealing with the major variables simultaneously have recently been recognized by some prominent scholars. Atkinson (1965) has recently discussed the significance of this problem in the Nebraska Symposium on Human Motivation as follows:

Until we have a generally useful conceptual framework which identifies the functional properties of variables which are to be conceived as relatively general and stable dispositions of

personality, on the one hand, or more specific and transient environmental influences, on the other, there is, to my way of thinking, little chance of resolving many of the perennial questions which so frequently come up in discussions of human motivation.⁷

His views concerning a theory of motivation have evolved through a series of experimental studies of achievement-oriented behavior in risk-taking situations. His theory of achievement motivation in a large part contributes to the development of the comprehensive model of motivation in this study. Katz (1964) also reports a similar conclusion as follows:

The complexities of motivational problems in organizations can be understood if we develop an analytic framework which will be comprehensive enough to identify the major sources of variance (the major variables) and detailed enough to contain sufficient specification for predictive purposes.⁸

In discussing the functions of a general systematic theory, Parsons (1954) also stressed the need for a comprehensive model:

⁷John W. Atkinson, "Some General Implications of Conceptual Developments in the Study of Achievement-Oriented Behavior," in M. R. Jones (ed.), Human Motivation: A Symposium (Lincoln: University of Nebraska Press, 1965), p. 5.

⁸Daniel Katz, "The Motivational Basis of Organizational Behavior," Behavior Science, Vol. 9, No. 2 (April, 1964), pp. 131-146.

The functions of the (generalized) frame of reference and of structural categories in their descriptive use are to state the necessary facts, and the setting for solving problems of dynamic analysis, the ultimate goal of scientific investigation. . . . there are two aspects of the goal itself; first, the "causal explanation" of past specific phenomena or processes and the prediction of future events; second, the attainment of generalized analytical knowledge, of "laws" which can be applied to an indefinite number of specific cases with the use of the appropriate factual data.⁹

All these statements manifest the need for a comprehensive model of motivation which is comprehensive enough to include major variables which help to explain the nature of the interactions among the major variables simultaneously, and which still can be decoded into partial theories so as to be applied to any particular systems of motivational phenomena. Unless there is a real advance in this direction, the very richness of the knowledge and empirical data in the partial theories will threaten to overwhelm the systematic construction of motivational theory.

Purpose of the Study

The primary purpose of the present study is to develop a comprehensive model of motivation which will include a

⁹Talcott Parsons, Essays in Sociological Theory (New York: Free Press of Glencoe, 1954), pp. 218-219.

broad class of determinants of human motivation. In the comprehensive model of motivation, motivation (M) is hypothesized as a multiplicative function of needs (N), incentives (I), perceptual variables or expectancies (E): $M = \sum f (N_i \times I_i \times E_i)$. This formula is essentially similar to Atkinson's formula: $M = N \times P \times I$, where P is similar to E.¹⁰ It is, however, different from some conceptualizations in formulating theoretical structure. Atkinson's theory of motivation is mainly concerned with one particular need, namely the achievement need, primarily in risk-taking situations. Thus, his theory does not specify which motivational factors should be included under each major variable. The comprehensive model of motivation in the present study, however, includes a broad class of motivational factors and considers their effects in determining the resultant forces of the major variables.

As a major concern of management in dealing with employees is to find the factors that lead to a high level of performance of employees, the secondary purpose of the study is to integrate the comprehensive model of motivation

¹⁰John W. Atkinson, "Motivational Determinants of Risk-taking Behavior," Psychological Review, Vol. 64, No. 6 (November, 1957), pp. 359-372; Introduction to Motivation (Princeton: D. Van Nostrand, 1964), p. 242.

into the theory of performance. In the theory of job performance, performance (P) is hypothesized as a multiplicative function of ability (A) and motivation (M):

$P = f (A \times M)$. This formula was originally hypothesized by Maier¹¹ and partially tested by some scholars. However, previous studies of this problem did not clearly prove the multiplicative relationship between ability and motivation. Furthermore, they did not specify which subvariables should be included under motivation. Thus, the writer attempts to specify the subvariables of motivation by integrating the comprehensive model of motivation into the performance model as expressed by the formula:

$$P = f (A \times N \times I \times E) .$$

Further attempts are made (1) to define the functional relationships between the variables by comparing the products of the multiplicative models with those of the additive alternatives and (2) to differentiate the degree of contribution of each major variable on the level of performance. It is hoped that the construction of the comprehensive model of motivation and performance can be served (1) as an analytical tool of describing and explaining

¹¹ N. F. R. Maier, Psychology in Industry (Boston: Houghton Mifflin, 1965), p. 229.

the relationships between the determinants of motivation and performance, (2) as a tool of systematizing the system of human motivation which is composed of many subsystems, and (3) as a general code from which the comprehensive model can be decoded into partial theory models which are applicable for analyzing particular subsystems.

Methodology of the Study

The present study is divided into two parts: the theoretical development of a comprehensive model and the empirical study testing the theory. In dealing with the theoretical construction, library research was employed to reveal the major variables of motivation and the relevant research and literature on the subject. In order to provide a groundwork for developing a comprehensive model of motivation, the partial theories of motivation are reviewed and reorganized. The purposes of reviewing the partial theories are: (1) to reveal the limitations of the partial theories in describing and explaining human motivation; (2) to identify the major variables of motivation; and (3) to classify the motivational factors in each major variable. The theory is structured in such a fashion that (1) the interactions between major determinants of job performance--ability and motivation--are treated at

the first stage model, (2) the interactions between major variables of ability and motivation are treated at the second stage, and (3) the interactions between motivational factors of each major variable of motivation are treated at the third stage.

In order to see if the comprehensive model of motivation and performance can be applied in practical situations, an empirical study was undertaken. The data were obtained from college students whose performances were measured in terms of final examination scores and whose abilities were represented by their college entrance exam scores. The sample of the study included 175 students who were registered in an introductory management course at Louisiana State University during the spring semester of the 1966-67 academic year. The motivational measures used in the study were obtained from questionnaires which were designed to measure the strengths of needs, incentives, and expectancies. Each student was asked to answer the questions by checking the appropriate alternatives on a five-point scale. Relative scores were ranged from one, representing a weak strength of a variable, to five, representing a strong strength. Information obtained from the university records included both college entrance and final examination scores of the students.

Some of the postulates in the partial theories, which were based on a limited number of assumptions, were also tested through the process of deductive reasoning as by-products of the empirical study. Validity of these assumptions will be discussed in the chapters on partial theories of motivation. Detailed descriptions of methodology and procedure will be presented later in the proper chapters.

Basic Assumptions and Hypotheses

The following assumptions are made as the basis of further discussions of the comprehensive model: First, every human organism has a set of needs which stimulate the individual to satisfy them with continuous and persistent efforts and activities. The satisfaction of the needs constitutes the individual goal toward which his purposive behavior is directed. Second, a person's immediate environment serves as external stimuli which instigate his motives either to approach or to avoid the environmental stimuli. When an external stimulus is employed as a means of inducing people to organizational activities, it can be considered as a type of incentive. Third, a person's perception about himself and the environment around him determines the operational goal which is consistent with reality. A person who has experienced success in attaining the goal tends

to set a high level of aspiration as an operational goal, and a person with a history of failure tends to set a low level of aspiration. Fourth, motivation is a goal-directed behavior by which a person satisfies his needs. A person's feeling of satisfaction can be attained only through the interactions with his environment, and in large part the degree of satisfied feeling depends upon his "state of mind," or his perceptual pattern. Therefore, the phenomenon of human motivation can be understood only through the study of interactions of needs, external stimuli or incentives, and perception. Fifth, organizations are interested in the motivation of employees not only because they exist for satisfying members' needs, but because motivation constitutes a major determinant of job performance (or productivity) along with ability and technology.

Validity of these assumptions will be supported through the review of relevant research and literature in the following chapters. Based on the above assumptions, the general hypotheses of the study are drawn as follows: First, the level of job performance of a person is a joint function of his ability and motivation. Second, the level of motivation of a person is a joint function of needs, incentives, and perception. In essence, the study emphasizes that the study of joint interactions between

motivational variables and factors will provide a better tool for analyzing and understanding motivational phenomena of human beings. Likewise, it is also emphasized that the study of joint interactions between ability and motivation will provide a better tool for predicting performance.

The assumptions and hypotheses stated above are the general statements that guide the general direction of this present study. Therefore, more specified experimental assumptions and hypotheses will be restated for the purpose of empirical study in the proper chapter.

Limitations of the Study

In reviewing historical research and literature of the manifold theories of motivation, only that portion which seemed to be most critical for the purpose of the present study was dealt with in the following four chapters; those theories which varied from the major trends were ignored. One of the major difficulties in constructing the comprehensive model of motivation and performance was to deal with the introspective nature of the concepts of needs and perception. As these concepts of needs and perception are unobservable by themselves, the validity of any attempt to measure the magnitudes of these concepts is

not directly testable. Some behaviorists, namely physiological and revealed preference behaviorists, do not emphasize the concept of needs and perceptions. This group of behaviorists, rather, advocate that scientific knowledge must be derived from directly observable--and hence refutable--data.¹² This type of reasoning may partly explain why some empirical studies on motivation (e.g., Herzberg's study) had to deal with only observable incentive variables.

However, the behaviorist criticism of the introspective reasoning, because of the directly unobservable nature of some concepts, seems partially unreasonable for the following reasons. First, although "needs" and "perception" cannot be directly observed, they have observable consequences.¹³ Thus, any information or measures obtained from these introspective concepts can be tested--and hence refuted--by comparing the measures with the observable consequences. For instance, a person was asked to answer the question whether he feels hungry by checking an appropriate alternative on a five-point scale. If he checked the alternative which was supposed to mean "very

¹²See Tapas Majumdar, The Measurement of Utility (London: Macmillan and Co., Ltd., 1958), pp. 78-111, for further discussions of this problem.

¹³Ibid., pp. 78-79.

hungry," and then went to a cafeteria to eat, the measure would be considered highly reliable. This type of reasoning is commonly used in dealing with unobservable social phenomena and indeterministic man-made systems. Second, as a motivational study is aimed at understanding--and not merely describing--observed phenomena,¹⁴ the concepts of needs and perception are deemed admissible as valid points for theory development.¹⁵ In essence, the observable consequences of the introspective concepts and the nature of motivational analysis lead the writer to accept the concepts of needs and perception as testable variables for a theoretical development.

Another major difficulty was to select a sample of subjects which would represent the whole universe of general population. Theoretically, it may be desirable to include various subsamples of the universe. In this respect, the findings of the present empirical study may only be applicable to a particular class of the universe--students. However, the methodological approach used in

¹⁴Ibid., p. 78.

¹⁵Herbert G. Hicks and Friedhelm Goronzy, "On Methodology in the Study of Management and Organization," Academy of Management Journal, Vol. 10, No. 2 (December, 1967), pp. 371-384.

the present study can also be utilized in analyzing other types of goal-achieving behavior. Furthermore, it seems desirable to develop a general predictive model which may only be applicable to a particular class of the universe, for each group requires some particular attention under each unique situation.

Other limitations of the empirical study may be found as follows: First, the student's name was asked on the questionnaire for the purpose of correlating his motivation score with his final grade. This might lead to biased responses, particularly on sensitive and extremely personal questions. Two measures were taken to prevent the possibility of creating undesirable consequences. The students were read the following statement at the beginning:

The purpose of the study is to build the inventory of students' views about their college life. The questionnaire will be handled by one of the research groups at Louisiana State University. Therefore, it will not be seen by anyone except the research personnel.

And some of the students, usually girls, were asked to leave the class to demonstrate the fact that the answers on the questionnaire would not affect their grades whatsoever. Second, the assumption that the college entrance examination scores of the students would represent their present level of ability might be erroneous, for their

level of intelligence or ability could have changed since the time of college entrance. However, since most of the students were sophomores, it could reasonably be expected that any possible changes were of a nominal amount which could be ignored.

Concepts and Definitions

Theory and Model

The terms "theory" and "model" have different meanings for different people. The present paper, therefore, defines the terms and designates the meaning which the terms represent in it. Followed by Kerlinger, the theory in this study is defined as:

A theory is a set of interrelated constructs (concepts), definitions and propositions that presents a systematic view of phenomena specifying relations among variables, with the purpose of explaining and predicting the phenomena.¹⁶

This definition implies several elements of a theory. First, a theory is a set of propositions consisting of defined and interrelated concepts. Second, a theory specifies the relationships among variables or a set of

¹⁶Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, 1966), p. 11.

variables. Third, a theory presents a systematic view of the phenomena described by the variables. Finally, a theory explains the phenomena, enabling the researchers to predict certain events that arise from the interactions of the variables.

The term "model" is considered the symbolic form of conveying ideas about the real phenomena in forms of word, diagram, pictorial representation, or mathematical formula. The major functions of models relative to theory construction are characterized as (a) representation, (b) inference, (c) interpretation, and (d) pictorial visualization, of the phenomena.¹⁷ Usually, a model serves as a linkage between theory and experiment, and many researchers explain and test the theory in terms of the model. When the model specifies the relationships between variables, it advances to the position of theory.

Needs and Motives

The concepts of need and motive have been deeply inbedded within motivational psychology, but they are, nevertheless, the sources of confusion. The term "need"

¹⁷Roy Lachman, "The Model in Theory Construction," Psychological Review, Vol. 67, No. 2 (March, 1960), pp. 113-129.

means a condition of physiological disequilibrium and of departure from homeostatic balance¹⁸ for some psychologists, while it connotes something more than organic disturbances, such as the psychological needs of social, self-esteem, and actualizations, for others. Needs also can be classified into dynamic and non-dynamic: dynamic, in the sense that they become the determinants of behavior; non-dynamic, in the sense that they are not.¹⁹ The concept of need we are interested in is a dynamic need which is aroused within the organism and tends to instigate a person to act. In this context, a need is defined as an internal stimulus which instigates the motive for action.

Motive on the other hand refers to "a particular class of reasons for action"²⁰ which is directed toward a goal or a set of goals for the purpose of need satisfaction. The relationship between needs and motives are such that the needs are the preconditions for instigating the motives, and the latter has the forces that lead the former. The

¹⁸William S. Verplanck, "A Glossary of Some Terms Used in the Objective Science of Behavior," Psychological Review, Vol. 64, No. 6, Part II (November, 1957), p. 22.

¹⁹Paul T. Young, Motivation and Emotion (New York: John Wiley and Sons, 1961), p. 123.

²⁰R. S. Peters, The Concept of Motivation (New York: Humanities Press, 1958), pp. 27-36.

concepts of needs and motives, however, are used here interchangeably, unless specified otherwise.

Incentives

Incentives generally refer to the external stimuli that affect human behavior in organizations. More specifically, incentives are the stimuli that induce people toward certain directions with dynamic forces, and that arrange the conditions introduced with the expectation of influencing or altering the behavior of man.²¹ The relationship between needs and incentives is such that positive incentives increase the expectation of need satisfaction and obtaining them satisfies the needs; negative incentives increase the states of need.

In common language, the terms "incentive" and "reward" are used synonymously. The distinction between them, however, is important for several reasons. First, rewards are paid for the past performance and one of their functions is to reduce the intensity of need. Whereas incentives are inducement for the future performance whose function is to instigate the motive to act. Second, equal amounts of

²¹Morris S. Viteles, Motivation and Morale in Industry (New York: W. W. Norton, 1953), p. 76.

reward paid in two different periods do not produce equal amounts of incentive value. Usually, the incentive value produced by the former period is greater than that produced by the latter.²² Nevertheless, positive rewards reinforce the value of incentives which are associated with the rewards; negative rewards refrain any action from the negatively associated incentive value.

Perception

Perception refers to the ways in which a person responds to the stimuli picked up by his sense organisms. "Perception depends upon the activation of psychological structural patterns of stimuli which initiate events leading to the identification and classification of the stimuli."²³ What one perceives and responds to in the environment is mainly determined by the self-concept which he holds about himself. The self-concept is the central organization of perception of a person through which the world around him is perceived, interpreted, and

²²Frank A. Logan, Incentive (New York: Yale University Press, 1960), pp. 2-5.

²³Helen Peak, "Psychological Structure and Person Perception," in Tagiuri and Petruller, (eds.), Person Perception and Interpersonal Behavior (Stanford, Calif.: Stanford University Press, 1958), p. 340.

valued to him. The study of motivation is deeply concerned with the perceptual mechanisms, for through these mechanisms a person sets up an operational goal consistent with reality. The operational goal is commonly called the "level of aspiration" or the "level of expectation" relative to the goal attainment.

Motivation

The term "motivation" refers to goal-directed behavior. Goal-directed behavior is characterized by the expression of selectivity and direction of behavior that is governed by voluntary control of man with the relation of a particular action to a definable goal. Thus, the term "motivation" is defined as a process governing choices made by persons among alternative forms of voluntary activity in the process of achieving goals.²⁴ In this sense, motivation theory is not synonymous with behavior theory, for the theory of motivation is concerned with only one class of determinants of behavior--goal-directed behavior.²⁵ The study of motivation also distinguishes between motivated

²⁴Victor H. Vroom, Work and Motivation (New York: John Wiley, 1964), p. 6; Atkinson, op. cit., p. 3.

²⁵A. H. Maslow, Motivation and Personality (New York: Harper and Brothers, 1954), pp. 63-79.

behavior, which is directed toward goals, and frustrated behavior, which is aroused when a person's goal-directed behavior is interrupted.²⁶ In essence, human behavior can be classified into three major categories: (1) motivated behavior, that is characterized by persistent goal orientation; (2) frustrated behavior, which lacks a goal orientation; and (3) physiological processes, such as reflexes and tropisms which are strictly related to external stimuli only, without being subjected to the voluntary control of the person performing the action. This distinction is important for it determines the scope of motivation study. This present study is primarily concerned with goal-directed behavior.

Preview of the Study

In Chapter I, a general introduction to the study, including the problem, methodology, assumptions and hypotheses, limitations, and terminology, of the study, is presented.

²⁶ N. R. F. Maier, Psychology in Industry (Boston: Houghton Mifflin, 1965), pp. 84-99.

In Chapter II, the classical doctrines and theories of motivation are introduced to give some insights into the historical perspective.

Motivational theories are classified into three broad categories according to the classification of motivational determinants: (1) need theories of motivation, (2) incentive theories of motivation, and (3) perceptual theories of motivation. Need theories are discussed in Chapter III, incentive theories in Chapter IV, and perceptual theories in Chapter V.

An attempt is made in Chapter VI to integrate those partial theories into a comprehensive model of motivation. In that chapter, the comprehensive model of motivation is developed through three stages of model building.

In order to see if the comprehensive model of motivation and performance can be applied in practical situations, an empirical study was carried out and is reported in Chapter VII. Motivational measures and statistical treatments are discussed, and the results are also reported in that chapter. The questionnaire and some statistical data are attached in the appendices.

Finally, summaries and conclusions of the study are presented in Chapter VIII. Some discussion and recommendations for further study in this area are included in that chapter.

CHAPTER II

SOME CLASSICAL DOCTRINES AND THEORIES OF MOTIVATION

Traditionally, the primary concerns of motivation theories have been centered around three major questions:

- (1) What are the forces of energizing and arousing behavior;
- (2) How can one influence or manipulate human behavior toward certain desirable objectives; and (3) Why are individuals different in their responses to the same stimuli.

The first question has led to the study of internal stimuli (or needs) which instigate the motives of behavior. Answers that have been presented in the past for this question are grouped under the subject of need theories of motivation.

The second question has been involved in the study of external stimuli (or incentives) which influence or direct the behavior of individuals toward certain objectives. Answers for this question are placed under the heading of incentive theories of motivation.

Finally, the third question led to the study of such personal variables as cognitive style and personality which

make each individual unique in his response to the stimuli. Studies concerning personal variables, relative to motivation, are discussed under the subject of perceptual theories of motivation.

Before presenting scientific interpretations of human motivation, some of the classical doctrines of motivation will be briefly introduced to give students of motivation some insights into the historical perspective.

Philosophical Interpretations of Human Motivation¹

The Doctrine of Animism

The doctrine of animism set forth a mental cause for physical effects and treated a spirit as a carrier of motives.² Spirits were classified regarding their characteristics as either good or bad. Hence, in the religious teachings which grew out of the primitive animism we find a clear-cut dualism of good and evil. The primitive religious teachings were to create, or direct, human

¹Another review of classical doctrines can be found in Leonard T. Troland, Human Motivation (New York: D. Van Nostrand, 1928), pp. 17-32.

²Edward B. Tylor, Anthropology (New York: Appleton, 1904), Chapter 14.

motives in the form which enhanced the interests of society. Incentives toward the good, and away from the evil, were dominated by the belief of future reward or punishment, especially in the "life after death."

The Doctrine of Hedonism

The earlier Greek philosophers, including Cyrenaics, Epicurus, Lucretius, and Horace, were concerned with human motives.³ For them, the feelings of pleasure and pain were regarded as being the only motives to action. It was assumed that the pursuit of pleasure and the avoidance of pain were the primary natural ends toward which all conscious living beings aimed.

The Doctrine of Virtue

Another group of Greek philosophers, including Socrates, Plato, and Aristotle, regarded virtue as the only goal of action and the source of all pleasure.⁴ The four cardinal virtues, according to Plato, were wisdom, fortitude, temperance, and justice. According to Aristotle, man's mind was divided into rational and irrational parts,

³Theodor Gomperz, Greek Thinkers (Translated by G. G. Berry, London: John Murray, 1904).

⁴Benjamin Rand, The Classical Psychologists (Boston: Houghton Mifflin, 1912), pp. 27-83.

and virtuous conduct demanded the rational regulation of irrational desires.

The Christian Doctrine

The Christian doctrines seem to combine the primitive animism and the Greek philosophers' doctrine of virtue. They accept the spiritual theory of animism and emphasize the practice of brotherly love against the selfish motives of man. In order to motivate a person the Christian doctrines appeal to man's concern with heaven and hell, as did the animistic religious doctrines in terms of reward and punishment in the "eternal life."

Physiological Mechanism

Descartes (1596-1650) advocated a completely mechanical explanation of animal behavior and modified this explanation for analyzing the behavior of man.⁵ He viewed the soul as a unitary being, and assumed that the multiplicity of passions which influence behavior were due to the action of the pineal gland. The six primary passions were: wonder, love, hate, desire, joy, and sadness. The psychial and physical things were different, but could be interacted

⁵Ibid., pp. 168-190.

as cause and effect.

The Doctrine of Self-Preservation

The earlier British philosophers, including Hobbes and Spinoza, following Descartes' materialistic way of thinking, attempted to base a doctrine of human behavior upon the natural instincts of self-preservation, which would result in pleasure when successful and in pain when unsuccessful.⁶ They essentially returned to the beliefs of classical hedonism, stating that happiness was found in the constant movement of desire toward fulfillment. Rousseau (1712-1778) also endeavored to explain human behavior on the basis of a general innate instinct of self-preservation.⁷

British Utilitarianism

Returning to the concepts of classical hedonism, Jeremy Betham (1748-1832) formulated a hedonistic doctrine of motivation.⁸ In it he contended that man was placed under the governance of two masters: pain and pleasure.

⁶Ibid., pp. 147-167 and 191-207.

⁷J. J. Rousseau, The Social Contract (London: J. M. Dent, 1913).

⁸Jeremy Betham, An Introduction to the Principles of Morals and Legislation (Oxford: Clarendon, 1876).

as cause and effect.

The Doctrine of Self-Preservation

The earlier British philosophers, including Hobbes and Spinoza, following Descartes' materialistic way of thinking, attempted to base a doctrine of human behavior upon the natural instincts of self-preservation, which would result in pleasure when successful and in pain when unsuccessful.⁶ They essentially returned to the beliefs of classical hedonism, stating that happiness was found in the constant movement of desire toward fulfillment. Rousseau (1712-1778) also endeavored to explain human behavior on the basis of a general innate instinct of self-preservation.⁷

British Utilitarianism

Returning to the concepts of classical hedonism, Jeremy Betham (1748-1832) formulated a hedonistic doctrine of motivation.⁸ In it he contended that man was placed under the governance of two masters: pain and pleasure.

⁶Ibid., pp. 147-167 and 191-207.

⁷J. J. Rousseau, The Social Contract (London: J. M. Dent, 1913).

⁸Jeremy Betham, An Introduction to the Principles of Morals and Legislation (Oxford: Clarendon, 1876).

As a basis for computing economic utility, he proposed a hedonic principle, according to which the value of pleasure for the individual depended upon the intensity, duration, certainty, propinquity, fecundity, and purity of the pleasure. The value for society depended upon the extent to which a number of persons share it. John S. Mill (1806-1873) stressed the ethics of utilitarianism, in which he pointed out that each man was an integral part of the society in which he existed.⁹

The Mental Process Doctrine

Schopenhauer (1788-1860) considered the universe as a whole to be an expression of a striving mental force which he called "Will."¹⁰ The Will is unconscious at the beginning, but through its activity it develops into definite ideas, perceptions, and emotions. For example, pleasure, pain, hope, fear, love, and hate are all expressions of the primitive striving of the Will.

⁹John S. Mill, Principles of Political Economy (New York: Appleton, 1865).

¹⁰Patrick Gardner, Schopenhauer (Baltimore: Penguin Books, 1963).

The Doctrine of Evolution

Darwin (1809-1882) viewed man as only one stage in the development of living organisms.¹¹ Man, however, had advanced one degree further than the others. He regarded the doctrine of natural selection as an innate instinct and assumed that the most critical instinctive response could be evolved through the struggle for existence and the survival of the fittest.

The Doctrine of Capitalism

Weber (1864-1920) manifested that the religious approval of the acquisitive motives in the Protestant Ethic paved the way for the spirit of capitalism.¹² Especially, the Calvinists and the Puritan leaders emphasized the duty of the individual to do God's will in his calling. Any action performed in a business calling, so long as it involved honest and rational useful work, can too be looked upon as one of the most righteous things a man

¹¹Charles R. Darwin, The Origin of Species (London: J. Murry, 1906), Chapter 8.

¹²Max Weber, The Protestant Ethic and the Spirit of Capitalism (Trans. by T. Parsons, London: Allen and Unwin, 1930).

could do, and its fruits, honestly acquired, were considered as the direct sign of God's blessing.¹³

Confucianism and Taoism

Unlike the individualistic and capitalistic philosophies in the Western cultures, the teachings of Confucian orthodoxy stressed the "filial piety" on the part of civilians to the emperor, on the part of the wife to her husband, and on the part of children to their parents. In this ethical context, the Chinese society placed an unquestioned value on the manner of piety, long life, and good name as motivators. Taoism, which departed from reality, viewed the contemplative grasp of the essence of the universe as the highest activity of man.¹⁴

Charisma and Legitimate Order

Charisma is a quality of things and persons by virtue of which they are specifically set apart from ordinary things. The recognition of Charisma is a specific attitude of respect, and this respect is considered as a legitimate order which governs every day life.¹⁵ Traditional value

¹³Talcott Parsons, The Structure of Social Action (New York: The Free Press of Glencoe, 1937), p. 531.

¹⁴Ibid., p. 552.

¹⁵Ibid., pp. 662-663.

systems and rationalized or artificial social structures insure the operation of Charisma.

Evaluation of Classical Doctrines

Although these, and other, classical doctrines of human motivation were not scientifically well developed theories, these splendid ideas about human motivation did become the foundations of modern psychological theories of motivation. Modern psychologists, employing scientific and systematic methods, have expanded the search for the cause and effect relationships between these and other factors involved in human motivation.

Classical Doctrines of Instinct

Freud's Instincts

One of the earliest influential theorists of motivation was Sigmund Freud (1856-1939). He viewed man as being governed by powerful instincts that press for gratification.¹⁶ He conceived three directing forces in all human minds, namely, the id, the ego, and the superego.¹⁷ The id

¹⁶ Sigmund Freud, Instincts and Their Vicissitudes (Trans. by A. A. Brill, New York: Modern Library, 1938), pp. 553-629.

¹⁷ Sigmund Freud, The Ego and the Id (London: Hogarth Press, 1946).

is the seed of the instincts and the home of the life energy which strives for and avoids pain. For all practical purposes, he regarded the sex instinct as the basis of all psychical energy and called it "libido." The id rests in the unconscious level and is governed by the extreme pleasure-principle which itself is based upon hedonism.

But, man's conscience, the superego, when it confronts reality at the conscious level, represses the instinct forces, for the erotic tendency is subject to severe repression in the ordinary social environment. Freud called this repressing agent the "censor" which stands on the threshold between the conscious and the unconscious levels of the mind. Freudian theory, at this level, operates on the reality principle which, in turn, requires a safeguard mechanism for the self. The severe repression and objection to the instinct forces causes grave conflicts in the minds of people which may damage the self.

Therefore, the ego arranges the process of the mind in a temporal order consistent with reality and brings the demands of the id in line with the restrictions imposed by the superego. Nevertheless, the Freudian system as it stands is essentially hedonistic in its main stream, and

it is deeply rooted in the unconscious level of the mind.

To quote Peters (1958):

Freud claimed that the reality principle safeguarded but did not dethrone the pure-pleasure principle. The latter can do nothing but wish and work towards the gaining of pleasure and the avoiding of pain; but the former strives for what is useful and guards the Ego against damage.¹⁸

McDougall's Instincts

McDougall (1871-1938) viewed the instincts as the prime motivators of human activity and classified the instinctive forces into three broad categories: (1) principal instincts, (2) minor instincts, and (3) general innate tendencies.¹⁹ He distinguished between instincts and emotions, regarding instincts as semi-physiological entities and emotions as psychological effects. He also correlated a list of instincts and one of emotions and found that emotions are aroused from the specific instinctive processes. To him, however, the instinctive forces were the essential springs or motives of all thought, and attitudes from which the

¹⁸R. S. Peters, The Concept of Motivation (New York: Humanities Press, 1958), p. 73.

¹⁹William McDougall, An Introduction to Social Psychology, 2nd Ed. (London: Methuen and Company, 1909).

character of individuals were gradually developed under the guidance of intellectual facilities.²⁰

By correlating the instinctive forces with corresponding emotions, McDougall presented a detailed list of instinctive-emotional items. The principal instincts, which are associated with primary emotions, are as follows: (1) flight and fear, (2) repulsion and disgust, (3) curiosity and wonder, (4) pugnacity and anger, (5) self-abasement and subjection, (6) self assertion and elation, (7) parental instinct and tender emotion, and (8) combinations of the above. The minor instincts, which have less well-defined emotional accompaniments are: (1) reproduction, (2) gregarious instinct, (3) acquisition, and (4) construction. Finally, the general innate tendencies are: (1) sympathy, (2) suggestion, (3) imitation, (4) play, and (5) temperament. These classifications are rather crude but the attachment of instinct-emotions linked the biological doctrines with the psychologically oriented studies, and the classification between primary, minor, and general instincts contributed much toward improving the understanding of the complexity of human behavior.

²⁰Ibid., p. 17.

Veblin's Instincts

Veblin (1857-1929) also regarded instincts as the prime movers of human behavior and classified them into four categories: (1) the acquisitive, (2) the parental, (3) the workmanship, and (4) the idle curiosity.²¹ The acquisitive instinct leads a person to acquire property, and to consider his own self interest as opposed to the welfare of others. The parental instinct causes an individual to think of others such as the family, the community, the nation, and mankind in general. The workmanship instinct leads a person to work on materials so he can create useful products and services. The idle curiosity instinct leads man to inquire into the nature of his world.

According to Veblin, these instincts do not directly lead to action, but are modified by habit and group action.²² The repeated urgings of his instincts begin to take on a form of habitual responses and these habitual responses are modified by the immediate environmental influences.

²¹Thorstein Veblin, The Instinct of Workmanship in the State of the Industrial Arts (New York: The Macmillan Co., 1914).

²²Ibid., pp. 104-138.

Evaluation of Instinct Doctrines

Undoubtedly, the instinct doctrines cultivated the foundations for modern theories of motivation, especially for psychoanalysis, but their approach to motivation lacked universal applicability to human motivation for the following reasons: First, the concept of instinct is usually based on the homeostatic principle by which the nerve system, or organism, is active only when aroused needs or tensions exist in the organism to abolish or reduce the stimuli to the lowest possible level. This passive hedonistic principle overlooks the fact that some behavior may actively search for pleasure without having tensions in the organism--an active hedonistic principle. Second, the concept of instinct was limited to the study of such innate needs as sex, self-preservation, and other organic needs, and thus neglected the learned or acquired needs which are more dominant determinants of human behavior. Finally, the concept of instinct offered a pseudo-scientific explanation of behavior but it was not an explanatory concept²³ because it could explain a complex combination of

²³Paul T. Young, Motivation and Emotion (New York: John Wiley, 1961), p. 106.

motivational processes. Thus, the concept of instinct was dropped from among the generally accepted beliefs of psychology.

Classical Learning Theories of Motivation

Thorndike's Learning Theory

Thorndike's principle of learning (1874-1949) was formulated upon two basic laws: the "law of effect" and the "law of exercise." The law of effect states that satisfaction strengthens an associative bond between situation and response, and that discomfort weakens the bond. To quote Thorndike (1911):

Of several responses made to the same situation, those which are accompanied or closely followed by satisfaction to the animal will, other things being equal, be more firmly connected with the situation, so that, when it recurs, they will be more likely to recur; those which are accompanied or closely followed by discomfort to the animal will, other things being equal, have their connections with that situation weakened, so that, when it recurs, they will be less likely to occur. The greater the satisfaction or discomfort, the greater the strengthening or weakening of the bond.²⁴

The law of exercise makes no reference to the affective aspect of response but refers only to the number of

²⁴E. L. Thorndike, Animal Intelligence (New York: Macmillan, 1911), p. 244.

connections between situation and response, quoted as follows:

Any response to a situation will, other things being equal, be more strongly connected with the situation in proportion to the number of times it has been connected with that situation and to the average vigor and duration of the connections.²⁵

Thorndike's formulation of the law of effect was reflected in the tenets of classical hedonism. But, the difference between these two concepts is that the hedonistic behavior is undertaken in order to experience a feeling of pleasure (or to avoid discomfort) in the future while Thorndike's law of effect is applicable only to the extent that it is based on the past experience of satisfaction or discomfort. In this sense, it is called hedonism in the past.²⁶

Pavlov's Conditioned Reflex

The Russian psychologist, Ivan Pavlov (1849-1936), carried out experiments on the salivary reflexes of dogs. In these experiments, the dogs secreted saliva when food was suddenly introduced into the mouth. The secretion was

²⁵Loc. Cit.

²⁶John W. Atkinson, Introduction to Motivation (Princeton: D. Van Nostrand, 1964), p. 115.

purely a reflex. When some other stimulus, such as the sound of a bell, was introduced simultaneously with feeding the dog, the secondary stimulus was able to arouse salivation even in the absence of food.²⁷ The arousal of salivation by the secondary stimulus was called a "conditioned reflex." The conditions under which the secondary stimulus was effective were to establish the conditioned stimulus before the injection of the primary stimulus and to overlap the conditioned stimuli with the primary one.²⁸ These experiments empirically supported the idea of association of stimulus and response, and demonstrated the fact that the association principle was physiological as well as psychological applicable.²⁹

However, Pavlov's further observations showed that in some cases the establishment of a conditioned reflex became difficult, if not impossible, especially when the dogs were drowsy.³⁰ In fact, in some instances all

²⁷I. P. Pavlov, Conditioned Reflexes (Oxford: Clarendon Press, 1927), pp. 22-24.

²⁸Loc. cit.

²⁹Troland, op. cit., p. 57.

³⁰Pavlov, op. cit., p. 28.

conditioned reflexes suddenly disappeared in favor of other stimuli such as the attraction of the opposite sex.³¹

Evaluation of Classical Learning Theories

The classical learning theories provided a starting point for the development of dominant incentive theories. Thorndike's law of effect and Pavlov's conditioned reflex paved the way for more refined principles of behavior such as (1) the principles of primary and secondary reinforcement, (2) the theory of approach-avoidance conflict, and (3) the principles of reward and punishment.

However, there are some built-in limitations in these theories. First, Thorndike's law of effect and Pavlov's conditioned reflex can only be applied to situations where the meanings of the stimulus are already learned or experienced by the subject. When the subject is not consciously aware of the pleasantness of unpleasantness which is associated with the stimulus, he cannot respond to the stimulus as predicted in the simple S-R theory. During the unlearned period and/or when the subject is not aware of the meaning of the stimulus, the subject develops cognitive expectations of the consequences of attaining

³¹Ibid., p. 47.

the goal. This latent-learning phenomenon which determines performance is treated as an intervening variable in Tolman's behavioral system, which will be discussed later. Second, the theories are applicable only when a subject has an aroused need which can be reduced by the injection of a stimulus. When the subject is well fed the food incentive does not instigate any reaction from the organism of the subject.³²

Classical Perceptual Theories of Motivation

Woodworth's Internal Organic State

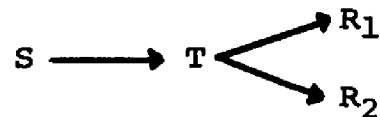
Woodworth (1918-) distinguished between two major trends of motivational theories which he found to exist. They were the mechanistic S-R bond theory, on the one hand, and the purposive instinct theory, on the other. He observed some possibilities of arousing many different reactions to the same stimulus in purposive behavior.³³ Some complications of behavior, however, required him to develop the notion of "internal organic state" as an

³²Edward C. Tolman, "The Determiners of Behavior at a Choice Point," Psychological Review, Vol. 45, No. 1 (January, 1938), pp. 1-41.

³³Robert S. Woodworth, Dynamic Psychology (New York: Columbia University Press, 1918).

intervening variable between the stimulus and the response. These complications, according to him, were: (1) multiple possibilities of reaction to the same stimulus; (2) the mutual exclusion of incompatible responses; (3) the advantage possessed by one alternative reaction over others; and (4) the shifting of reaction from one stimulus to another.³⁴

To deal with these complications within the framework of the S-R scheme, Woodworth (1921) wrote the following formula:



where S is the stimulus, T is the inner tendency, and R_1 and R_2 are possible reactions.³⁵

Tolman's Intervening Variables

Tolman (1936-) developed the concept of intervening variables in motivational theory in order to demonstrate the fact that purposive behavior possesses a demand for goal and expectancy of goal attainment which intervene

³⁴Ibid., pp. 107-108.

³⁵Robert S. Woodworth, Psychology: A Study of the Mental Life (New York: Holt, Rinehart and Winston, 1921), p. 71.

between observable antecedents and observable consequences.³⁶ Tolman viewed the demand for goal attainment as a product of a positive valence and the strength of expectation as a product of past experience.³⁷ These two variables are the most important intervening variables between stimuli and responses in a person at any decision point. Especially, when the subject does not understand the meaning of the incentive, he utilizes his perceptual mechanism to assign an incentive value of, and an expectation about, the consequence of the incentive attainment. Figure 1 explains what Tolman meant by intervening variables or "mental process" in his motivation theory.³⁸

<u>Observable Antecedents</u>	<u>Intervening Variables</u>	<u>Observable Consequences</u>
1. Environmental stimuli 2. Drive 3. Heredity 4. Previous Training 5. Maturity	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Demand for Goal and Expectancy of Goal </div>	1. Selectivity of performance 2. Persistency of performance 3. Strength of performance

Figure 1. Tolman's Concept of Intervening Variables

³⁶Edward C. Tolman, Operational Behaviorism and Current Trends in Psychology (Los Angeles: University of Southern California, 1936), pp. 89-103.

³⁷A valence means an object or region which attracts an individual. This concept will be defined in the section of Lewin's theory.

³⁸Tolman, loc. cit.; also, see Atkinson, op. cit., p. 145.

Evaluation of Classical Perceptual Theories

The classical perceptual theories introduced the concept of intervening variables between stimuli and responses. This introduction was an initial step toward a development of a general theory of motivation. However, most theories of perception have attempted to build a unitary theory of motivation with one single variable--perception. The basic assumption underlying this unitary theory was that perception is the prime determinant of behavior because it regulates the direction, strength, and length of searching activities. Thus, the emphasis on perceptual variables has neglected a significant role played by needs and incentives in determining the level of motivation.

Summary and Conclusion

Some of the classical doctrines and theories of human motivation have been reviewed briefly. These classical doctrines have offered a critical insight into human motives which have tended to become the foundation of modern theories of motivation. The instinct doctrines attempted to explain internal forces energizing and arousing behavior. These studies of internal stimuli led to the development of currently held need theories of

motivation. The classical learning theories were concerned with external stimuli that instigate motives within the organism. The studies of external stimuli developed currently postulate theories of incentives. Finally, the classical perceptual theories concerned themselves with intervening variables between stimuli and responses. The studies of intervening variables developed currently held theories of perception. These currently held need, incentive, and perception, theories will be discussed in the following chapters.

CHAPTER III

NEED THEORIES OF MOTIVATION

In attempting to answer the question of what energizes and arouses human motives for action internally, many scholars have used a variety of terms for analyzing, understanding, and explaining the internal determinants of behavior. In fact, the need theories of motivation have been evolved through differing emphases and usages of various terms as the means of explaining the internal determinants of stimuli to behavior. The terms, which are commonly used in research and literature, are "drive" and "need." Both drive and need theories of motivation will be discussed in the first part of this chapter. As individuals organize and join organizations in an effort to satisfy their needs, the operations of human needs in organizations will be discussed in this chapter also. The discussions will be divided into five major headings: (1) the drive theories of motivation; (2) the primary need theories of motivation; (3) the operations of human needs in organization; (4) the classification of motivational needs;

and (5) the relationship between need satisfaction and motivation.

Drive Theories of Motivation

The drive concept was welcomed by some who had defended the instinct doctrine to permit the adaptability and the purposive nature of human behavior. A drive is usually conceived of as a physiological determinant of behavior, and it is more useful when the concept is used in connection with organic conditions that lead to the development of goal-directed behavior. As a drive is an organic motivation, it is more closely related to innate determinants of behavior than to be true in the concept of instinct.¹

Young's Theory of Drive

Drive is the most important variable in Young's (1936) theory of motivation. First of all, he gave the following definitions of drive: (1) drive is energy, (2) drive is that stimulus which releases the energy, (3) drive is general activity, (4) drive is any tendency to behavior, (5) drive is a specific, goal-directed behavior, and

¹Paul T. Young, Motivation and Emotion (New York: John Wiley, 1961), p. 107.

(6) drive is a motivating factor in the personality.² He also classified drives as primary and secondary, with primary drives being: (1) hunger; (2) nausea; (3) thirst; (4) sex; (5) nursing; (6) urinating; (7) defecating; (8) avoiding heat; (9) avoiding cold; (10) avoiding pain; (11) a craving for air; (12) fear and anger; (13) fatigue; (14) sleep; (15) curiosity, observation, and manipulation; (16) and tickle.³

He did not give a list of secondary drives, but a secondary drive was defined negatively in relation to the primary drives. The general characteristics of the drive are: (1) drive is an organic motivation rather than something environmental; (2) drive is a persisting motivation, rather than a brief stimulation; (3) drive is an activating, energizing process,⁴ and (4) drive has a property of reinforcing responses that lead to drive reduction.

Hull's Theory of Drive

The currently held concepts of drive tend to be based upon Hull's implicit postulate that drives are the central

²Paul T. Young, Motivation of Behavior (New York: John Wiley, 1936), p. 75.

³Ibid., 150-151.

⁴Young, Motivation and Emotion, p. 106.

states of motivation characterized by three functional properties, namely, (1) drives energize habits, (2) drive reduction is the mechanism of reinforcement, and (3) associated with each drive is a characteristic stimulus with which response may become associated.⁵ By this postulate, Hull (1884-1952) tried to accommodate a theory of mechanical S-R bonds within the framework of classical learning theories. Thus, he expressed this relationship by the following equation:

$$sEr = f (sHr) \times f (D),$$

where the reaction potential (sEr) is the product of a function of habit strength (sHr) multiplied by a function of the strength of drive (D).⁶ This equation symbolizes the energizing effect of drive on instrumental responses.

Evaluation of Drive Theory

Although Young and Hull developed the concept of drive to show the antecedent conditions (introduced by Young) of behavior and to link the conditions with the consequent conditions (introduced by Hull) to explain the causal relationships of internal mechanisms, there were some

⁵Clark L. Hull, Principles of Behavior (New York: Appleton-Century, 1943), pp. 240-253.

⁶Ibid., pp. 240-242.

limitations in their conceptions. First, their concept of drive was limited to the organic states which lead to the development of goal-directed behavior. Therefore, the psychological bases of internal stimuli were neglected. Second, their concept of drive was treated rather as a state of motivation than as conditions or internal stimuli that lead to motivation. As a means of correcting these limitations, many scholars preferred to introduce the concept of "need" in designating the internal stimulus.

Primary Need Theories of Motivation

The concept of need, in this paper, is broad enough in meaning to include biological as well as sociological needs which instigate the motives of behavior internally. The concept of instincts, as well as learned needs which are equivalent to the concept of motives is studied.

Allport's Theory of Need

Allport (1924) saw needs as essential forces of behavior, stating that some needs are in existence in the human organism, and the organism acts in such a manner to satisfy the needs.⁷ To him a need satisfaction refers to a

⁷F. H. Allport, Social Psychology (New York: Houghton Mifflin, 1924), p. 1.

biological readjustment. Although he recognized the social aspect of behavior, he related this aspect to non-social behavior. "The significance of social behavior is exactly the same as that of non-social behavior; namely, the correction of the individual's biological maladjustment to his environment."⁸ To him, biological needs are the ends toward which a person's social behavior is a developed means or incidental to the fulfillment of biological needs.

Murray's Theory of Needs

Murray (1938) made the concept of needs one of the central positions in modern psychology when he defined a need as:

A construct (a convenient fiction or hypothetical concept) which stands for a force (the physiochemical nature of which is unknown) in the brain region, a force which organizes perception, apperception, intellection, conation and action in such a way as to transform in a certain direction an existing, unsatisfying situation.⁹

The scholar classified needs into two categories: (1) viscerogenic (primary) and (2) psychogenic (secondary) needs.¹⁰ The former includes the needs for air, water,

⁸Ibid., p. 3.

⁹ Henry A. Murray, Explorations in Personality (New York: Oxford University Press, 1938), pp. 123-124.

¹⁰Ibid., p. 72.

food, sex, lactation, urination, and defecation--all of which have a known physiological basis. The psychogenic needs are derived from the primary needs. They are characterized by a lack of focal connection with any specific organic process or physiological satisfaction. Some examples of these are the need for abasement, achievement, affiliation, aggression, autonomy, and so forth.¹¹

Evaluation of Classical Needs Theories

To the need psychologists, the secondary needs are derived from the process of satisfying those needs which are physiological, and therefore, behavior is activated only to reduce or eliminate the needs which are aroused in the organism. Although the secondary needs are assumed to be derived from the manner of satisfying the primary needs, the secondary ones actually become dominant in our society and become ends in themselves. To the modern psychologists, the secondary needs are assumed to be the major internal stimuli of human behavior and the emphasis on the secondary needs in the motivational study protests the classical

¹¹K. B. Madsen, Theories of Motivation (Cleveland: Howard Allen, 1961), p. 147.

need-reduction theory (or deficiency motivation) or motivation, paying more attention to growth motivation.¹²

Schindler's Basic Psychological Needs

Schindler (1954), while recognizing the physiological needs, listed five basic psychological needs as the needs for (1) love, (2) security, (3) creative expression, (4) recognition, (5) new experiences, and (6) self-esteem.¹³ Love is an inner desire for receiving and/or giving the affection from and/or to others. The security need is the need for protection from criminals, diseases, and economic deprivation. Creative expression is an urge to create something new and to be constructive in work and leisure. Recognition is the desire to feel a sense of importance and to do something worthwhile. Need for experience is a desire to look forward to something new in order to prevent a monotonous, routine feeling. Self-esteem is a desire to think highly enough of oneself to provide courage to continue trying for accomplishment. Attempts to satisfy these needs are the mainspring of human motivation. The

¹²Carl Rogers, Abraham H. Maslow, and Erich Fromm belong to this group of psychologists.

¹³J. A. Schindler, How to Live 365 Days a Year (Englewood Cliffs: Prentice-Hall, 1954).

mature individual is the one who develops a proper manner of satisfying them.

Maslow's Need Hierarchy

Maslow (1954) viewed an individual's motivation in terms of need hierarchy.¹⁴ Man's needs are arranged in the hierarchy of prepotency. The hierarchy is arranged in the order of (1) physiological, (2) safety, (3) social, (4) self-esteem, and (5) self-actualization, needs. Physiological needs are those needs which are associated with hunger, thirst, rest, sex, and other biological needs; safety needs are needs for protection from danger, threat, and deprivation; social needs are needs for expression of love, friendship, and a gregarious nature; self-esteem needs are those which are composed of autonomy, dignity, and respect from others; and self-actualization needs are the needs for realizing one's own potentialities in forms of creativity and capacity, for continuous self-development, and so forth.

According to his analysis, as modified by McGregor (1960), man is a wanting creature and rarely reaches a

¹⁴A. H. Maslow, Motivation and Personality (New York: Harper and Row, 1954), pp. 80-106.

state of complete satisfaction.¹⁵ Therefore, the organism will search continuously for need satisfaction, especially at the level of self-esteem and self-actualization. The dynamic process of animating the organism is the emergence of less potent needs from the gratification of more potent needs such as physiological and safety. The emerging needs, therefore, become major motivators of behavior.

Operations of Human Needs in Organizations

Individuals organize, join, and remain in organizations in an effort to satisfy their needs through organizational activities.¹⁶ An organization exists only when it appears that it can satisfy its members' needs; and individuals contribute to the achievement of the organizational goals only when they believe they can benefit from their contribution.¹⁷ An individual at a given moment has a variety of needs of which some can be satisfied in a

¹⁵Douglas M. McGregor, "The Human Side of Enterprise," Management Review, Vol. 46, No. 11 (November, 1957), pp. 22-28 and 88-92.

¹⁶One authority claimed that organization exists as a means of overcoming the limitations restricting what individuals can do. See Chester I. Barnard, The Functions of the Executive (Cambridge, Massachusetts: Harvard University Press, 1938), p. 23.

¹⁷Herbert G. Hicks, The Management of Organizations (New York: McGraw-Hill, 1967), pp. 16-29.

particular organization while others cannot. An organization cannot satisfy the multiple needs of an individual simultaneously and inclusively because different activities are necessary to satisfy each of the needs, and the organization has limited resources for satisfying the different classes of needs. What makes this more difficult is the fact that each individual in the organization is unique in the set of needs which may or may not be satisfied within the organization. If the dominant need of an individual, which tends to govern his behavior at a moment of time, can be satisfied within the organization, he will remain a member and contribute to the organizational success.

One of the jobs of a manager is, therefore, to estimate the dominant need of the employee at a given moment in order to choose the proper incentive which will satisfy the employee's needs and induce him to expend his energy on productive activity.¹⁸ The problem of determining the predominant need of an employee is very complex, for it involves the total personality of the individual whose

¹⁸Leon C. Megginson, Personnel: A Behavioral Science Approach to Administration (Homewood, Ill.: Richard D. Irwin, 1967), p. 549.

motivation is based upon a social value system rather than upon inherent desire alone.¹⁹

Hicks' Vector Concept

As a means of conceptualizing the resultant force of various needs of an individual, Hicks (1967) introduced a conceptual tool using the technique of vector analysis.²⁰ In the conceptual analysis a hypothetical individual has four sets of socio-psychological needs and one set of biological needs as shown in Figure 2a. His various needs pull him in different directions with differing strengths.

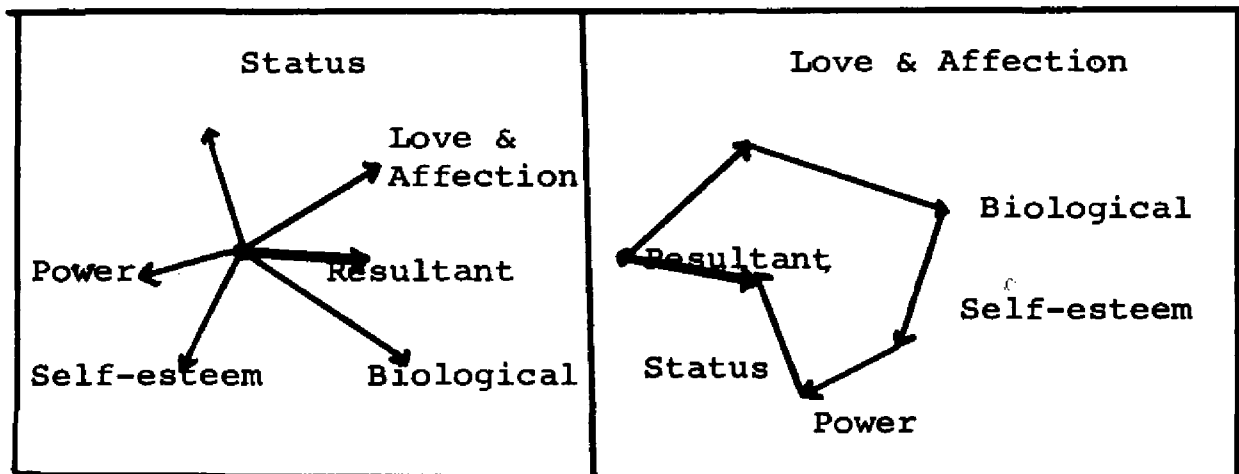


Figure 2a. Needs as Vectors

Figure 2b. Resultant Motive

However, as he cannot move in different directions simultaneously, he will attempt to satisfy the varied needs by

¹⁹Ibid., p. 551.

²⁰Hicks, op. cit., pp. 38-43.

finding a resulting movement which will compromisingly satisfy all these needs. As shown in Figure 2b, the need vectors are added together by connecting them end to end in a sequence, while keeping the original lengths and directions. When the starting point and the open end of the chain are connected, a new force which is called the "resultant" is produced as the compromise of all the needs. The resultant is an abstract representation of the person's total needs and the resultant can be substituted for all the other needs.

The derived resultant is very significant for the organization because the resultant shows the net direction in which this particular individual wants to move in order to best satisfy his needs. If an individual finds that he and an organization are moving in the same direction, he should be willing to devote his effort to the organization.

The application of vector analysis in measuring needs is, however, at this point only a conceptual tool.²¹ Much research must be done in order to develop a workable tool for measuring the resulting force. In essence, as the individuals in an organization contribute to its success only to the extent that they will accomplish their own

²¹Ibid., p. 42.

objectives, the relationship between individual and organizational objectives, in the long run, should be compatible as a basis of reinforcing contributions on both sides.

Maslow's Dynamic Process

As the conceptual scheme is too complex to be an operational tool, many people tend to adapt Maslow's need hierarchy theory. As it was pointed out in an earlier section, Maslow arranged human needs in a series of levels--a hierarchy of importance.²² The hierarchy is arranged in the order of (1) physiological, (2) safety, (3) social, (4) self-esteem, and (5) self-actualization needs. As soon as the needs on a lower level are reasonably satisfied, those on the next higher level will emerge as the dominant need demanding satisfaction.²³ As an individual moves up to the higher levels of the hierarchy, satisfaction of these needs become more challenging and rigorous. In fact, they can never be fully satisfied.

Maslow suggested that the levels of the hierarchy are not rigidly fixed by overlapping so that the next higher level of need emerges before lower level needs are completely

²²Maslow, op. cit., pp. 80-106.

²³McGregor, op. cit., p. 36.

satisfied. Thus, an individual's needs will tend to be partially satisfied at each level. This fact suggests that the emerging need tends to be the dominant motivator of behavior.

Another important proposition about human motivation is that a satisfied need is no longer a motivator of behavior.²⁴ When people are deprived of something, they will crave it. Deprivation can be the motive of behavior. This concept is significant, for it limits the frequent use of certain incentives that cannot be motivators beyond a certain level of satisfaction of a particular need. Only those needs that have not been satisfied exert any appreciable force on behavior.

Classification of Motivational Needs

Individuals in an organization have a variety of needs that they want to satisfy through organizational endeavors. But, not all needs are equally motivational needs that lead to productive activities. There has been a tendency during the past few years to emphasize the differences between these two basic types of needs. The first of these is

²⁴Loc. cit.

described as motivational, intrinsic, or self-actualization needs; the second is categorized as maintenance, extrinsic, or deficiency needs. It is generally assumed that workers who are motivated by the first type of needs are better job performers than those who are motivated by the second. The validity of this assumption will not be questioned here.

Myers' Motivational Needs

Myers (1964), in his study at Texas Instruments, distinguished between those needs that lead to motivation and those that do not.²⁵ The former were called "motivation needs"; the latter were designated as "maintenance needs." Job performance, according to him, depends on the fulfillment of both motivation and maintenance needs.

Motivation needs include the needs for achievement, recognition, responsibility, growth, and advancement. These are the needs that can be satisfied through the media of interesting job content, performance appraisal, delegation, merit increases, profit sharing, and other intrinsic job factors. Motivation needs focus on the achievement of both individual and organizational goals.

²⁵ M. Scott Myers, "Who Are Your Motivated Workers?" Harvard Business Review, Vol. 42, No. 1 (January-February, 1964), pp. 73-88.

Maintenance needs include the needs for physical, social, status, security, and economic satisfaction. These needs are usually satisfied through the media of compensation, seniority, physical conditions, social environment, and other extrinsic job factors.

Another interesting finding of the study was that the personal traits of individuals led the workers to be classified as "motivation seekers" or "maintenance seekers."²⁶ Motivation seekers are primarily motivated by the intrinsic value of the task which provides conditions for personal growth; maintenance seekers are motivated primarily by the extrinsic nature of the job which will satisfy their lower level of needs such as physiological, safety or security, and social needs. Another characteristic which was also found was that motivation seekers are more often inner-directed and less subject to the environmental influence while maintenance seekers are usually outer-directed and may be highly reactive to the environment.

Myers' classification between motivation needs and maintenance needs is similar to the Herzberg two-factor theory which distinguishes between satisfiers and

²⁶Ibid., pp. 76-77.

dissatisfiers.²⁷ In fact, Myers applied Herzberg's analytical scheme in this research report. But the difference between the two studies is in fact that Myers focused more on the need side of employees while Herzberg put his emphasis on the side of incentives. Interestingly enough, Herzberg's two sets of incentives, e.g., satisfiers and dissatisfiers, are strikingly coincident with Myers' two sets of needs--motivation needs and maintenance needs.

Myers' study, when it is interpreted in terms of Maslow's theory, suggests that when people are not satisfied with the maintenance needs management actions which will satisfy these needs will lead employees to perform the productive organizational activities. But once they have satisfied these maintenance needs, then management should appeal to the motivation needs and take actions that will provide conditions for the achievement of personal goals, especially at the levels of self-esteem and self-actualization needs satisfaction.

One cross-occupational study showed that white-collar workers and personnel in high occupational levels placed a greater value on intrinsic job factors than blue-collar

²⁷Frederick Herzberg, Bernark Mausner, and B. Snyderman, The Motivation to Work (New York: John Wiley and Sons, 1959).

workers while lower occupational levels placed greater value on extrinsic job factors.²⁸ In general, if it can be stated that different types of people, they must be motivated in different ways, and that while some may be motivated to satisfy the maintenance needs, others must seek and satisfy the motivational needs.

Motives in Industry

While Maslow's needs hierarchy provides a useful tool for analyzing human motivation, it seems too general in nature to explain the motivational needs in industrial settings. Thus, an attempt to explain the motivational needs in industry calls for a special arrangement of human motives in industrial settings. The following motives seem to be closely associated with human motives in industry.²⁹

Achievement Motive

The strongest factors that stimulate people to strive for excellence are probably the desire to become what one

²⁸Richard Centers and Daphne E. Bugental, "Intrinsic and Extrinsic Job Motivations Among Different Segments of Working Population," Journal of Applied Psychology, Vol. 50, No. 3 (June, 1966), pp. 193-197.

²⁹Leon C. Megginson and Kae H. Chung, "A Striving for Excellence," Phi Kappa Phi Journal, Vol., XLVII, No. 3 (Summer, 1967), pp. 16-24.

is capable of becoming, i.e., the desire to realize one's own ambitious self-image, and the desire to achieve what one wants to accomplish. Some motivational studies indicate that motivated workers,³⁰ professional groups,³¹ and higher ranked executives³² are strongly motivated by the achievement associated motives, while maintenance seekers³³ and lower levels of employees³⁴ are primarily motivated by such hygienic factors as pay, supervision, and other factors peripheral to the job. Individuals with a high achievement motive seem to be decisive, realistic, inner-directed, enterprising, and creative.

Competitive Motive

The competitive urge has been deeply embedded in the American mind, and it has been a leading motive in the search for excellence. However, there are limitations to this stimulus. Too much stress on this factor may create a

³⁰Myers, loc. cit.

³¹Herzberg, et. al., loc. cit.

³²David C. McClelland, The Achieving Society (Princeton: D. Nostrand, 1961).

³³Myers, loc. cit.

³⁴Boris Blai, Jr., "An Occupational Study of Job and Need Satisfaction," Psychological Reports, Vol. 14, No. 1 (February, 1964), pp. 81-82.

sense of mastery over other organizational members which may lead to a deterioration of the cooperative system. If one of the reasons for organization is to engender a cooperative effort, the strong sense of competition within the cooperative system may tend to destroy it. But, if individual jobs are relatively independent of others, i.e., many professional jobs, the strong sense of competition may assist in affecting the job's success.

Affiliative Motive

Man's gregarious nature does not necessarily lead to an attempt to achieve excellent performance. But, some of the affiliative motives seem to affect strongly the desire for better performance; some affect it positively, some affect it negatively.

First, it has been hypothesized that the supervisor's expectation of excellence from his subordinates, and the subordinates' desire to meet that expectation, seem to motivate employees to strive for the highest levels of accomplishment.³⁵ Another recent study reported that managers, as well as non-managers, tend to depend upon their

³⁵G. M. Oxley and G. B. Oxley, "Expectations of Excellence," California Management Review, Vol. 6, No. 1 (Fall, 1963), pp. 13-22.

immediate superior for their motivational opportunities.³⁶ Thus, the motivation to excellence becomes the definite responsibility of superior management.

Second, it is hypothesized that an individual's social aspiration leads to conformity; in turn, this conformity keeps the wheels of progress or mediocrity turning smoothly in group activity. Conformity, per se, is neither good nor bad; the problem is the quality of the norms or standards of behavior to which the group conforms. Conformity, however, cannot assure a high degree of superiority, for creative and innovative activities seem to result from the independent action of nonconformists.

Economic Motive

It is generally been said that "money isn't everything" and "man can't live by bread alone." As these sayings are apparently true, many researchers have neglected to investigate the value of money as a motivator. Although the danger of downgrading the value of financial rewards as a motivator is growing in the American society, money still motivates, for it embodies many values in addition to

³⁶ M. Scott Myers, "Conditions for Manager Motivation," Harvard Business Review, Vol. 44, No. 1 (January-February, 1966), pp. 58-71.

its economic worth.³⁷ First, financial gain can be a symbol of achievement and a measure of a person's success, as shown by McGregor.³⁸ For example, how much income a man earns is often the scale used to measure his social status. Second, money is a substitute for the satisfaction of other needs. When the route to satisfaction of a non-monetary need is blocked, an individual can use money as a substitute for the blocked one. Third, the desire for the economic gain directly motivates most people, at least part of the time. Those individuals who might be classified as economic determinists may strive for excellence only for the sake of money itself.

In essence, as individuals in organizations contribute to their organizational success to the extent that it will allow them to accomplish their own objectives, the relationship between individual and organizational objectives in the long run should be compatible as a basis of reinforcing contributions on both sides.

³⁷ Leonard Scheideman, "The Practical and Cultural Significance of Money," Public Welfare, Vol. 23, No. 3 (July, 1965), pp. 197-201.

³⁸ Douglas McGregor, Human Side of Enterprise (New York: McGraw-Hill, 1960), pp. 91-106.

Satisfaction and Motivation

One of the functions of a reward in human motivation is to reduce the aroused needs. Then, the question is whether need satisfaction is a necessary condition for high productivity. One view holds that satisfaction is a means to reinforce the rewarded behavior in the subsequent occasions,³⁹ while another view claims that a satisfied organism reduces one's search behavior.⁴⁰

The first view is well accepted by many motivation theorists and it tends to hold true when a man's feeling of satisfaction is not an end state but only a periodic state that can never be satisfied. For instance, the need for food emerges periodically and can never be satisfied forever. Thus, food is a reinforcer for the hunger need. However, when the means of satisfying the hunger need is reasonably guaranteed for a person, offering food may not serve as a motivator for better work. The feeling of satisfaction or the feeling of security reduced search behavior or motivation for the object. Salvations for the

³⁹ The learning theorists, based on the law of effect, state that a stimulus that is followed by a reduction of need can allow it to evoke the reaction on subsequent occasions.

⁴⁰ J. G. March and H. A. Simon, Organizations (New York: John Wiley, 1958), pp. 48-49.

first view, however, are endowed by growth psychologists and modern human relationists.

Growth Psychologists

For healthy and mature individuals the nature of secondary needs including social, self-respect, and self-actualization, are such that they can never be fully satisfied. Therefore, no matter how reasonably management may provide rewards to employees, there will remain some tension or continued need for satisfaction for which people strive.⁴¹

In the views of Rogers (1951, 1961), Maslow (1954), and Argyris (1960) a human being grows toward self-actualization. A need for the favorable regard of others or self-esteem, according to Rogers, develops with the self-concept which is one element of the self-actualizing tendency.⁴² All the other basic needs, according to Maslow, are simply considered as steps along a time path leading to self-actualization.⁴³ According to Argyris, along this

⁴¹A. M. Cohen and W. R. Meredith, "Management and Employee Needs," Advanced Management--Office Executive, August, 1962, p. 30.

⁴²Carl R. Rogers, Client-Centered Therapy (Boston: Houghton Mifflin, 1951); C. R. Rogers, On Becoming A Person (Boston: Houghton Mifflin, 1961).

⁴³Maslow, loc. cit.

path an individual grows from passive to active, from child to adult personality, and from an immature to a mature person. The emerging force of psychological growth and development is the tendency toward self-actualization which never can be fully satisfied.⁴⁴

This thesis is based on the theoretical assumption that all people are qualified to be motivated for satisfying self-actualization need. However, in practice, this assumption is limited in the sense that not all people are equally qualified to be motivated to strive for self-actualization. Yet, some of the growth psychologists still have a hope for the salvation of the former view by developing self-actualization need.

Human Relationists Movement

As a defense for the primacy of need satisfaction human relationists have also emphasized the need satisfaction of employees. This view was based on the assumption that organizational members bring to their organizations their personal needs, values, and goals so that they have to be motivated to direct their effort toward organizational

⁴⁴Chris Argyris, Understanding Organizational Behavior (Homewood: Dorsey Press, 1960); See John W. Lawrie, "Motivation and Organization," Personnel Journal, Vol. 46, No. 1 (January, 1967), pp. 42-49.

success by satisfying those needs, values, and goals. When the needs are satisfied, the employees are expected to feel more involved with their work and to do better work.⁴⁵ When the organization implants barriers between the individual and the satisfaction of his needs, the individual is frustrated rather than motivated. In turn, when employees are blocked from satisfying their needs, they react to the situation by resorting to such psychological mechanisms as aggression, regression, and fixation, rather than engaging in goal-directed behavior.⁴⁶

The above views seemed to be the core idea of human relationists for many years. Beginning with the Hawthorne experiments in the 1920s and the 1930s, the human relations movement tried to promote harmonious relationships between individuals and groups. It hoped to maintain high levels of employee satisfaction and greater operating efficiency.

The findings of the Hawthorne studies revealed a direct relationship between morale and productivity.⁴⁷ Higher

⁴⁵ Cohen and Meredith, op. cit., p. 28.

⁴⁶ Norman R. F. Maier, Psychology in Industry, 3rd Ed. (Boston: Houghton Mifflin Company, 1965), pp. 84-95.

⁴⁷ F. J. Roethlisberger and W. J. Dickson, Management and the Worker (Cambridge: Harvard University Press, 1939), pp. 84-96; Also, see F. Herzberg, B. Mausner, R. O. Peterson and D. F. Capwell, Job Attitudes (Pittsburgh: Psychological Service of Pittsburgh, 1957).

productivity was considered to be a result of the whole work environment where personal needs were met, where employees have satisfactory associations with their fellow workers, and where the supervisor maintains satisfactory informal social relationships. The key element in the human relations approach, therefore, is to make organizational members feel as useful and important components of the overall organizational activities. This attitude of management was viewed as a means of improving employee morale and satisfaction which would, in turn, facilitate the workers' compliance with formal authority.⁴⁸

Apparently, many of the human relationists have carried the movement too far, in that they directly equate employee satisfaction with higher organizational productivity. Many later studies have proved that there is no significant relationship between job satisfaction and productivity.⁴⁹ Particularly, Davis (1962) observed the case where high morale was followed with low

⁴⁸Raymond E. Miles, "Human Relations or Human Resources," Harvard Business Review, Vol. 43, No. 4 (July-August, 1965), pp. 148-163.

⁴⁹Rober L. Kahn, "Productivity and Job Satisfaction," Personnel Psychology, Vol. 13, No. 3 (Autumn, 1960), pp. 275-287; Rensis Likert, New Pattern of Management (New York: McGraw-Hill, 1961), pp. 15-35.

productivity.⁵⁰ On the other hand, Goode and Fowler (1949) reported a case of low morale with high productivity.⁵¹ These and numerous other studies indicate that the relationship between personal satisfaction and job productivity is not a simple one but may be dependent upon many other situational variables.

March and Simon's Motivational Decision

The first view was attacked by March and Simon (1958) who distinguished between the decision to participate in the organization and the decision to produce for organizational success.⁵² The confusion in understanding the relationship between satisfaction and productivity, according to them, stems from the failure to distinguish between these two types of decision. The production decision is substantially different from the participation decision in such a manner that a satisfied employee may decide to participate in the organizational activities but his participation does not necessarily mean that he is

⁵⁰ Keith Davis, Human Relations at Work (New York: McGraw Hill, 1962), p. 82.

⁵¹ W. J. Goode and I. Fowler, "Incentive Factors in a Low Morale Plant," American Sociological Review, Vol. 14, No. 5 (October, 1949), pp. 618-624.

⁵² March and Simon, op. cit., pp. 47-52.

motivated to produce. Individuals frequently perceive the organizational rewards they receive as uncorrelated with their productivity or as dependent on nonproductive variables. If this is the case, even though they may be satisfied with the rewards, they do not see any reason to devote their strong effort to organizational productivity. In this circumstance, higher satisfaction of employees is not a good predictor of high production nor does it facilitate production.

The more critical issue of their thesis is that the higher the satisfaction of the organism, the less the search for need satisfaction will be undertaken. As the old saying, "necessity is the mother of invention," indicates, the feeling of an unsatisfied need, or discontent, is the main source of the searching behavior of organisms. Although the continued dissatisfaction of employees creates the problems of higher turnover and organizational neurosis, or frustration, some forms of constructive and healthy tensions are potential stimuli to greater organizational productivity.⁵³ The conditions under which employees will

⁵³David W. Swing, "Tension Can Be An Asset," Harvard Business Review, Vol. 42, No. 5 (September-October, 1964), pp. 71-78.

contribute their strong effort to organizational productivity seem to stem from situations where employees perceive their rewards to be correlated with productivity and in which they perceive their satisfaction can only be obtained through the organizational success. To quote March and Simon (1958):

Motivation to produce stems from a present or anticipated state of discontent and a perception of a direct connection between individual production and a new state of satisfaction.⁵⁴

Summary and Conclusion

The needs theories of motivation have established a central position in the studies of motivation. But the study of needs alone cannot explain human motivation. There are some examples that explain the difficulty.⁵⁵ First, the same need may lead to different responses according to the differing strength of incentive and of the perceptual pattern of the individual. Second, the same need can be met by receiving different rewards which have incentive value according to the value system of the person.

⁵⁴March and Simon, op. cit., p. 51.

⁵⁵Some of the examples are presented in T. W. Costello and S. S. Zalkind, Psychology in Administration (Englewood Cliffs: Prentice-Hall, 1963), pp. 64-66.

For instance, the need for power may be satisfied by becoming president of a nation for one person or by beating his wife and children for another. Third, similar behavior may be based on the operation of different needs. Frequently, people are engaged in the same activities to accomplish different needs. For example, a promotion may be sought by one person because of the increase in salary; it may be sought by another because of his need for increased power. These examples lead to the conclusion that human behavior, in addition to being influenced by the existence of needs, is also governed by the given environment, which functions as an external stimulus to the person, and is modified by a person's unique perceptual patterns such as cognitive style, past experience, expectancy, and level of aspiration. In essence, there are many determinants other than needs and desires.⁵⁶ Various determinants of motivation, other than needs, will be discussed in the following chapters.

⁵⁶Maslow, op. cit., p. 75.

CHAPTER IV

INCENTIVE THEORIES OF MOTIVATION

In an effort to answer the second type of question of how one can influence human behavior toward certain desirable objectives, many scholars have discussed the environmental factors that induce a person to act in a given manner. The external stimuli that affect a person's goal-directed behavior are called incentives. The ability to induce and control the behavior of organizational members is one of the most vital prerequisites of living organizations, especially in industrial settings. The primary purpose of inducing and controlling human behavior is to influence and direct the attitudes and motives of employees toward desired organizational activities.

It is often asserted that motivation through the effective application of incentives is the central problem involved in utilizing the human resources of an organization.¹ In this sense, the term incentive is defined as an

¹Leon C. Megginson, Personnel: A Behavioral Approach to Administration (Homewood: Richard D. Irwin, 1967), p. 383.

external stimulus which arouses dynamic forces within employees, or the conditions introduced in jobs with the expectation of influencing or altering the behavior of employees.²

This chapter is involved with some incentive theories, and the discussion is divided into five major headings: (1) the principles of incentives, (2) the functions of managerial incentives, (3) the classification of managerial incentives, (4) the concept of satisfiers and dissatisfiers, and (5) the methods of incentive application.

Principles of Incentives

The classical learning theories, e.g., Thorndike's law of effect and Pavlov's conditioned reflex, paved the way for more refined theories and principles of motivation involving the application of incentives. The principles of primary and secondary reinforcement, the theories of conflict, and the principles of reward and punishment are some of the most significant examples of refined theories of incentive which govern the process of influencing behavior.

²Morris S. Viteles, Motivation and Morale in Industry (New York: W. W. Norton, 1953), p. 76.

Principles of Primary and Secondary Reinforcement

As Thorndike did with his law of effect and as Pavlov attempted to do with his earlier experiment, Hull (1943) focused his attention on two problems involving (1) the extent to which an organism will strive to bring about the "reinforcing state of affair" of motivation and (2) the extent to which a stimulus associated with the primary reinforcing state will be strengthened by learning. Basing his theory on the law of effect, Hull advocated the view that the function of the primary reinforcing state of affair is to reduce the biological needs.³ The needs-reduction function of the primary reinforcing agent was called the principle of primary reinforcement. This principle partially accounts for the selective strengthening of the correct responses (R) to the stimulus situation (S). In other words, when a response (R) takes place with a stimulus (S) on a continuous basis, and this S-R association is followed by a reduction of needs, there will be an increment in the tendency for the stimulus to evoke the same reaction on subsequent occasions.

Hull also formulated the principle of secondary reinforcement. As in Pavlov's concept of the conditioned

³Clark L. Hull, Principles of Behavior (New York: Appleton Century, 1943), p. 71.

reflex, the second principle states that a stimulus that has in the past been closely and consistently followed by a primary reinforcement assumes the capacity of serving as a reinforcing state.⁴

Having developed the principles of reinforcement and his concept of drive, Hull then identified the determinants of habit strength (sHr) in associating a stimulus with a response. The determinants are: (1) the continuity of the S-R Bond; (2) the closeness of the S-R event; (3) the number of reinforcements; and (4) the magnitude of reinforcement.⁵ The first three determinants are explained in a previous chapter. The last determinant can be found in Crespi's classical studies of the effect of quantitative variation of incentives on performance. His studies showed that when holding the hunger need constant, rats which were given a larger food incentive ran faster than rats which were given a smaller food stimulus during the training period. After a number of trials, the amount of rewards was shifted so that the original conditions in which rats trained with large and small food incentives

⁴Ibid., pp. 84-85.

⁵Ibid., p. 178.

were changed. The results showed that there were changes in their running speed. The rats which received a reduced food incentive decreased their speed while the other group which received an increased incentive increased their running speed.⁶

Lewin's Concepts of Valence and Conflict

When a stimulus is applied to a subject, it may have either a positive or a negative valence. The term "valence" is defined as "a region within the life space of an individual (P) which attracts or repulses this individual."⁷ If the stimulus has a positive valence, the subject will approach it; if otherwise, he will try to avoid it. When a person has a stimulus applied which has various positive and/or negative valences, he finds himself in a psychological conflict situation.

Lewin (1935) defined a conflict as "a situation in which oppositely directed, simultaneously acting forces

⁶ L. P. Crespi, "Quantitative Variation of Incentive and Performance in the White Rat," American Journal of Psychology, Vol. 55, No. 4 (October, 1942), pp. 467-517; Crespi, "Amount of Reinforcement and Level of Performance," Psychological Review, Vol. 51, No. 6 (November, 1944), pp. 431-457.

⁷ Kurt Lewin, The Conceptual Representation and the Measurement of Psychological Forces (Durham, N.C.: Duke University Press, 1938), p. 88.

of approximately equal strength work upon the individual."⁸ Three major types of conflict are generally found in situations: (1) approach-approach conflict, (2) avoidance-avoidance conflict, and (3) approach-avoidance conflict.⁹

Approach-Approach Conflict. In the approach-approach conflict situation, the individual stands between two positive valences of approximately equal strength. A choice between mutually exclusive positive goals or incentives creates a psychological conflict within the person. The solution to this type of conflict is relatively easier than for others, for a decision to choose one alternative is the matter of potency which is the subjective feeling of probability that he expects to attain it.

Avoidance-Avoidance Conflict. This avoidance-avoidance type of conflict arises when an individual finds himself between two approximately equal negative valences. The conflict of this type can be solved by leaving the field.

Approach-Avoidance Conflict. The approach-avoidance type of conflict arises when both positive and negative

⁸Kurt Lewin, A Dynamic Theory of Personality (New York: McGraw-Hill, 1935), p. 122.

⁹Ibid., pp. 114-170.

valences are in the same field. The easiest solution to this type of conflict is the temporary avoidance of the job or leaving the field permanently and doing some other task.

Besides these major types of conflict, there are some variations of conflict theory. One version of the major types of conflict is found when an individual is located in a negative valence region but he cannot escape from the region.¹⁰ An example of this form of conflict, where the individual has to do an unpleasant task or be punished, is illustrated in Figure 3.

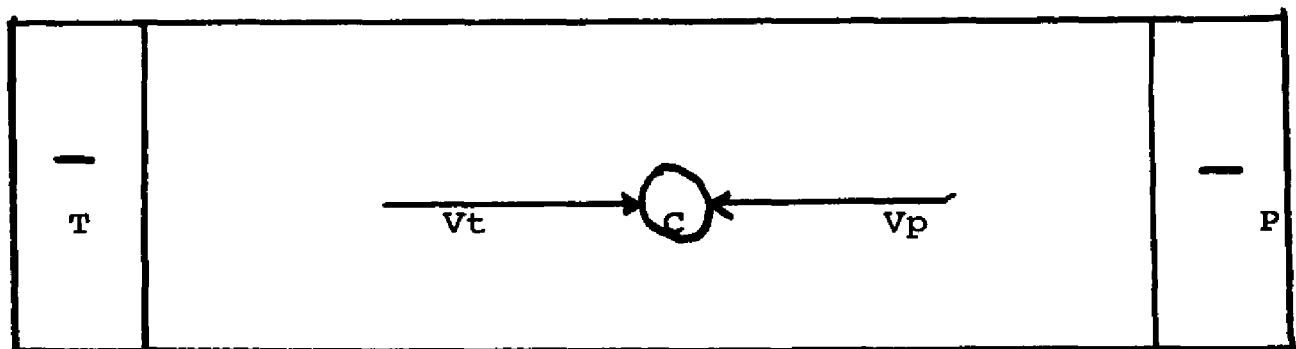


Figure 3. Unpleasant Task and Punishment Within a Boundary

T = unpleasant task, P = punishment, Vt = Vector of T, Vp = Vector of P.

In order to resolve this type of conflict, the person has either to perform the task or accept the punishment. When

¹⁰Ibid., p. 135.

the person performs the task, the vector (V_p) proceeding from the punishment is stronger than the opposed vector (V_t) from the task; when the person accepts the punishment, on the other hand, the vector (V_t) is stronger than the vector (V_p).

Another version of the major types of conflict is found when both reward and punishment are presented in an unpleasant task, as illustrated in Figure 4.¹¹ The simultaneous occurrence of fear of punishment and hope of reward is the major characteristic in this conflict situation. If the forces of the two vectors, V_p and V_r , are stronger than the opposed vector (V_t), the individual will perform the task; otherwise he will accept the punishment.

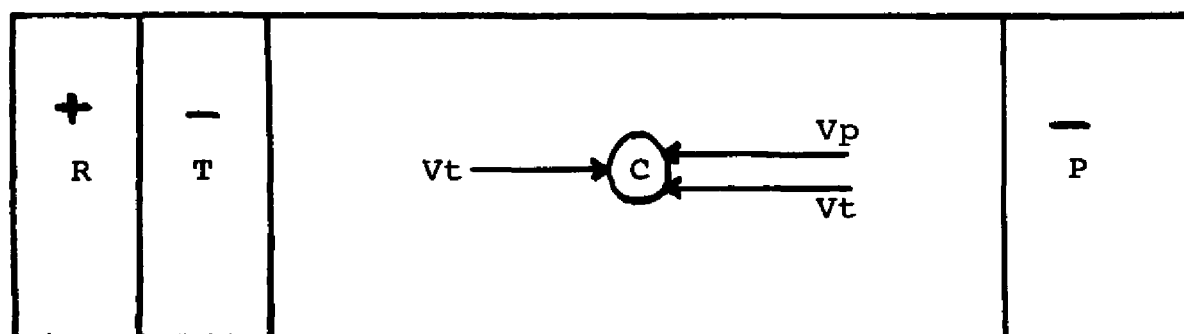


Figure 4. Combination of Reward and Punishment

R = reward, P = punishment, T = unpleasant task,
 V_r = vector of R, V_p = vector of P, V_t = vector of T.

¹¹Ibid., p. 157.

Principles of Affective Processes

The feelings of pleasantness and unpleasantness of a person toward an object (e.g., a valence of a particular goal) are largely dependent upon the affective process. The term "affective process" is used here to designate a primitive feeling of pleasantness or unpleasantness toward an external stimulus. An affective process basically follows the principle of hedonism. An affective process, in this sense, differs from a cognitive process which conveys specific information to the brain centers, making it possible for an organism to discriminate, evaluate and comprehend the meanings of the stimuli. Although an affective process does not convey and evaluate specific information about external stimuli, it is regarded as a motivation process, for human behavior is not only influenced by rational judgement but also by primitive hedonism.

Affective processes are motivational in the sense that "they evoke action, regulate the course of behavior, and organize patterns of approach and withdrawal."¹² Thus, they operate on certain principles of hedonism.¹³ First,

¹²Paul T. Young, Motivation and Emotion (New York: John Wiley and Sons, 1961), p. 203.

¹³Some principles are adopted from Young. See Ibid., pp. 198-201.

an affective arousal orients the organism toward or against the stimulus-object. Along with pleasant stimulation there is a positive affective arousal; along with painful stimulation there is a negative affective arousal. Second, an affective process leads to the development of motive. An orientation toward a goal object instigates and regulates behavior. Third, the strength of a motive depends upon the intensity, duration, frequency, and recency of the affective process. Fourth, an affective process organizes behavioral patterns of approach and withdrawal in that a positive affective arousal tends to facilitate and a negative to inhibit activities of the organism.

Principles of Reward and Punishment

Many scholars and practitioners have employed the principles of motivational incentives, discussed in the previous section, in their search for the practical conditions which insure the effectiveness of influencing measures. These practical conditions take the form of reward and punishment.

The concept of reward and punishment is based on the principle of law of effect: Rewarded behavior tends to be repeated and punished behavior tends to be eliminated. Positive reward occurs when something valuable is offered

to the person for acceptable performance. Negative reward or punishment occurs when something occurs as the result of an unpleasant unacceptable performance. The dual function of reward is not only to reduce the aroused need in the person, but also to reinforce the value of positive incentive which will come along with the future performance. Punishment is applied not only to sustain the drive state or tension, but also to create a negative affective arousal when a negative incentive will be presented in the future performance.

The principle of reward and punishment can also be conceptualized in terms of valence. When a person is located between positive and negative regions, as shown in Figure 5, the tendency of the person to move toward the positive region will be doubled that of either the positive vector (V_p) or the negative vector (V_p) alone.

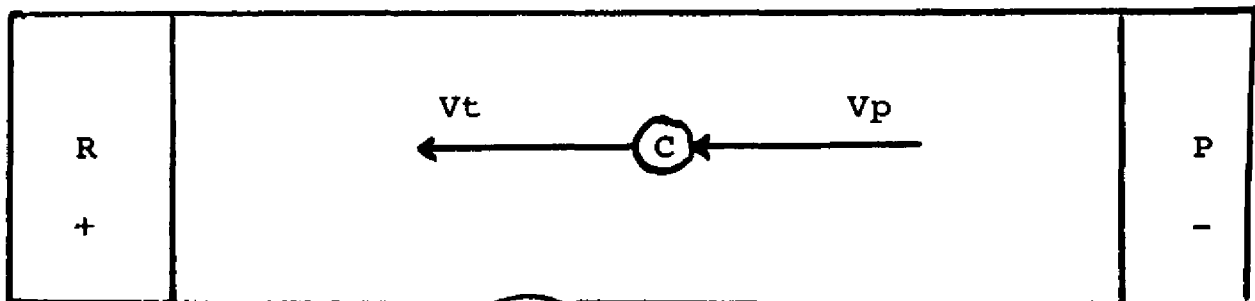


Figure 5. Reward and Punishment

R = reward, P = punishment, V_r = vector of R,
 V_p = vector of P.

In this situation the person will naturally be motivated toward the positive goal. The most general case of reward and punishment is found when both positive and negative valences are located in the same region with a negative valence on the opposite side, as illustrated in Figure 4. In this situation a reward is offered when a person accomplishes an unpleasant task, but a punishment is followed when he has not performed acceptably. To motivate the person, the resultant force of reward and punishment must be stronger than the vector (V_t) resulting from the unpleasant task.

The conditions under which rewards can be strong motivators were discussed by Logan (1960). First, the larger the rewards the subject is given, other things being equal, the better his performance will be. Second, the shorter the time an organism is required to wait for the reward, other things being equal, the more effective the incentive is. Third, the reward should be varied not only from trial to trial but also with the variations in the response.¹⁴

¹⁴Frank A. Logan, Incentive (New Haven: Yale University Press, 1960), p. 8.

Functions of Managerial Incentives

The primary function of managerial incentives is to induce people to contribute their efforts to the organizational productive activities. If the inducements offered by the organization appeal to the individuals, the results are likely to be more effective, for people will be motivated to obtain the inducements that will satisfy their needs. To quote Barnard (1938):

An essential element of organizations is the willingness of persons to contribute their individual efforts to the cooperative system. The contributions of personal efforts to contribute are yielded by individuals because of incentives. The egotistical motives of self-preservation and of self-satisfaction are dominating forces; on the whole, organizations can exist only when consistent with the satisfaction of these motives, unless, alternatively, they can change these motives.¹⁵

The secondary function of incentives is to relieve employees from the fear of deprivation of need satisfaction. When an individual knows the availability of the means of satisfying his needs, he will not fear the deprivation. When the individual feels a need, he will be motivated to obtain the means of satisfying the need.

¹⁵Chester I. Barnard, The Functions of the Executive (Cambridge: Harvard University Press, 1938), p. 139.

When the means of satisfaction is obtained, it is in itself reward for his effort.

Some studies support the inducement function of incentives. For example, one study showed that when people believe their efforts will lead to the desired rewards, they produced, and few individuals would engage in extended activities unless they believed that there would be a connection between what they would do and the rewards they would receive.¹⁶ Another experiment showed that when the research varied the magnitude of reward, the performer's behavior was affected not only by the variations of reward but also by the influence of the observers used in the experiment.¹⁷ The direct effect was caused by the recipient's direct response to the variations of reward while the indirect effect resulted from environmental pressure. Such external stimuli as material reward and group pressure affect human behavior in organizations.

¹⁶Melvin J. Lerner, "Evaluation of Performance As A Function of Performer's Reward and Attractiveness," Journal of Personality and Social Psychology, Vol. 1, No. 4 (April, 1965), pp. 355-360.

¹⁷James L. Bruning, "Direct and Various Effects of A Shift in Magnitude of Reward on Performance," Journal of Personality and Social Psychology, Vol. 2, No. 2 (August, 1965), pp. 278-281.

In essence, external stimuli presented to a person influence him, positively or negatively, in a certain direction.

Barnard-Simon's Equilibrium Theory

A general summation concerning the relationship between organizational inducements and individual contributions was made clear by the Barnard-Simon theory of organizational equilibrium. The general postulates of the theory are as follows:

1. An organization is a system of interrelated social behaviors of a number of persons which we shall call the participants in the organization.

2. Each participant and each group of participants receives from the organization inducements in return for which he makes to the organization contributions.

3. Each participant will continue his participation in an organization only as long as the inducements offered him are as great or greater (measured in terms of his values and in terms of the alternatives open to him) than the contributions he is asked to make.

4. The contributions provided by the various groups of participants are the source from which the organization manufactures the inducements offered to participants.

5. Hence, an organization is 'solvent,' . . . and will continue in existence . . . only so long as the contributions are sufficient to provide inducements in large enough measure to draw forth these conditions.¹⁸

¹⁸J. C. Marsh and H. A. Simon, Organizations (New York: John Wiley, 1958), p. 84.

This theory of organizational equilibrium emphasizes the interdependent relationship between an organization and its members, and is primarily concerned with the general conditions under which an organization can induce its members to participate in the organizational activities. The specific conditions under which employees will be motivated are satisfied when the organization creates a state of motivation and leads them to perceive a direct relationship between individual productivity and reward.

Katz's Incentive System

In designing an effective incentive system it is important to distinguish between the system for individual rewards and the system for organizational rewards by virtue of their membership.¹⁹ The former system is administered in relation to individual effort and performance. Methods used in this system include piece-rate incentives, promotion based on merit, or any special recognition. The latter system is administered in relation to all members in the organization. Methods used in the latter system include fringe benefits, recreational

¹⁹ Daniel Katz, "The Motivational Basis of Organizational Behavior," Behavioral Science, Vol. 9, No. 2 (April, 1964), pp. 131-146.

facilities, across-the-board upgrading, job security provisions, or pleasant working conditions.

The former system performs two major functions: (1) instigating individual effort and initiative for contributing to the organizational activities; and (2) recognizing the contributions made by individual members. This type of motivation can be applied to jobs with considerable independence of their surroundings. It encounters problems, however, when the jobs are highly interdependent on each other.

The latter system is more effective for holding members within the organization than for maximizing their productivity. This system may be beneficial in terms of the harmonious relationship between the employer and the employees and by reduced turnover. But it does not guarantee a solution to the problem of too low turnover with too many poorly motivated employees.²⁰

Classification of Managerial Incentives

An organization has various means of inducing and influencing its employees to contribute their strong efforts to the organizational endeavors. The study of the relative

²⁰ Ibid., p. 140

importance of these various incentives has been the major concern of many researchers in incentive motivation.

There are two broad categories of incentives; namely, material (or financial) and non-material (or nonfinancial). Material incentives are tangible appeals which can be used to acquire the means of satisfying primary needs and some of the secondary needs as well. Nonmaterial incentives are intangible appeals which tend to be satisfaction-yielding within themselves. The former type of incentives includes wages and salaries, fringe benefits, and other tangible appeals; the latter includes work group, supervision, promotional opportunities, company policies, job content, and other tangible appeals.

Financial Incentives

The use of money as a motivational tool has been well recognized by many scholars and practitioners. Although money is not the only incentive, many classical writers, as well as contemporary scholars, have emphasized the incentive value of money.

Taylor (1856-1915) concluded that workers will put forth extra effort on the job to maximize their economic gains if wages are differentiated by differential outputs. Taylor devised what he called "differential piece rate,"

based on the assumption that different increments of income will produce direct and proportional increments of effort.²¹

Viteles (1953) reported that surveys of companies experienced with wage incentive plans showed substantial increases in productivity following the installation of the incentive wage system.²² A comprehensive study about the effects of incentive plans on productivity showed that productivity increased an average of 63 per cent during the years of incentive wage installation.²³ Maier and Hoffman (1964) also found that the importance of financial incentives depends upon the intensity of needs.²⁴ When the need is great, people tend to do things for money even though they dislike doing them.

Opsahl and Dunnete (1966) summarized the theories of the role of money in affecting the job behavior of

²¹Frederick W. Taylor, "Time Study, Piece Work, and the First Class Man," in H. F. Merrill, Classics of Management (New York: American Management Association, 1960), pp. 67-76.

²²Viteles, op. cit., pp. 18-39.

²³John D. Dale, "Increase Productivity 50% in One Year with Sound Wage Incentives," Management Methods, Vol. 15, No. 5 (February, 1959), pp. 38-42.

²⁴N. R. F. Maier and L. R. Hoffman, "Financial Incentives and Group Decision in Motivating Change," Journal of Social Psychology, Vol. 64, Second Half (December, 1964), pp. 369-378.

employees.²⁵ Their summaries, combined with some other interpretations, are as follows: First, money acts as a generalized conditioned reinforcer because of its repeated pairings with primary reinforcers. Such a reinforcer can be effective because some deprivation will usually exist for which the conditioned reinforcer is appropriate.²⁶

Second, repeated pairings of money with primary incentives establishes a new learned drive for money.²⁷ Presumably, money could become a generalized conditioned incentive by many pairings with many different types of incentives.

Third, money is an anxiety reducer.²⁸ People learn to become anxious in the presence of a variety of cues signifying the absence of money. Thus, having money serves to reduce anxiety related to the absence of money.

Fourth, money is a "hygiene factor" serving as a potential dissatisfier if it is not appropriately administered,

²⁵R. L. Opsahl and M. D. Dunnette, "The Role of Financial Compensation in Industrial Motivation," Psychological Bulletin, Vol. 66, No. 2 (August, 1966), pp. 94-118.

²⁶B. F. Skinner, Science and Human Behavior (New York: McMillan, 1953).

²⁷J. Dollard and N. E. Miller, Personality and Psychotherapy (New York: McGraw-Hill, 1950).

²⁸J. S. Brown, The Motivation of Behavior (New York: McGraw-Hill, 1961).

but not as a potential satisfier when employees are well paid.²⁹ The growing acceptance of Herzber's satisfiers-dissatisfiers theory of motivation appears to destroy the concept of pay as a motivator.³⁰ However, Herzberg and his associates also recognized the fact that "money earned as a direct reward for outstanding performance is a reinforcement of motivators of recognition and achievement."³¹

Fifth, money acquires valence as a result of its perceived instrumentality for obtaining other desired outcomes.³² Gellerman (1963) also stressed the instrumental role of money.³³ According to him, money itself has no intrinsic value but acquires significant motivating power when it comes to symbolize tangible goals.

Sixth, the employee's perception of the fairness of his compensation determines its effectiveness as a stimulus

²⁹F. Herzberg, B. Mausner, and B. Snyderman, The Motivation to Work (New York: John Wiley, 1959).

³⁰Thomas C. Rodney, "Can Money Motivate Better Job Performance?" Personnel Administration, Vol. 30, No. 2 (March-April, 1967), pp. 23-29.

³¹Herzberg, Mausner, and Snyderman, op. cit., pp. 116-117.

³²Vroom, op. cit., pp. 15-17.

³³Saul W. Gellerman, Motivation and Productivity (New York: American Management Association, 1963), pp. 160-169.

to productivity.³⁴ When workers believe that they are overpaid, they produce more; otherwise they reduce their productivity.

The findings of the above research, except Herzberg's "hygiene factor" concept, are rather inclined to emphasize the motivational value of financial incentives. However, some other views attach less importance to the motivational value of financial incentives. First, human relationists view man as a "socio-psychological" being who stresses the importance of the satisfaction of social and ego needs. They theorize that higher productivity is an outcome of the total work environment where employees have satisfactory relationships with their fellow workers and their supervisor.³⁵

Second, money is not the only reward, nor lack of money the only punishment, available in any given situation.³⁶ Third, man has risen above the mundane demands of

³⁴J. Stacy Adams, "Wage Inequities, Productivity, and Work Quality," Industrial Relations, Vol. 3, No. 1 (October, 1963), pp. 1-16; I. R. Andrews, "Wage Inequity and Job Performance: An Experimental Study," Journal of Applied Psychology, Vol. 74, No. 3 (May, 1967), pp. 183-200.

³⁵F. J. Roethlisberger and W. J. Dickson, Management and the Worker (Cambridge: Harvard University Press, 1941), pp. 84-86.

³⁶William F. Whyte, Money and Motivation (New York: Harper and Brothers, 1955), p. 197.

a physiological existence. When workers' subsistence needs are satisfied, financial incentives do not motivate them. Above that level, wages tend to decline in importance as stimulants to productivity, and other stimulants to productivity and other stimulators achieve greater significance.³⁷

Supervision and Leadership

According to Myers (1964), the role of supervision in motivating employees is important for two reasons:

- (1) it provides conditions for releasing such motivational needs as recognition, achievement, and responsibility;
- (2) it provides the means of satisfying such maintenance needs as pay, working conditions and socialization of employees.³⁸

In order to satisfy the motivational needs, the supervisor should provide employees with the necessary information, maintaining high performance expectations, encouraging goal-setting and independent judgement, and providing recognition and rewards commensurate with

³⁷D. W. Belcher, "Toward a Behavioral Science Theory of Wages," Journal of Academy of Management, Vol. 5, No. 2 (August, 1962), pp. 102-115.

³⁸Myers, op. cit., p. 86.

achievement. The supervisor should also create favorable conditions for satisfying those maintenance needs. Satisfaction of maintenance needs is essential, for dissatisfaction of these needs leads employees to fall back on maintenance-seeking behavior which may interrupt the development of motivation-seeking behavior.

In checking and correcting the performance of employees the supervisor must apply the principle of reward and punishment effectively contingent upon the subordinates' performance. Rewarding subordinates for effective performance and withholding rewards or punishing them for ineffective performance is a necessary component of effective leading.

Many studies of supervisory behavior have concerned the effect of supervision styles on productivity. They usually contrasted "production-centered" supervision with "employee-centered" supervision. The production-centered supervisor is interested almost exclusively in getting jobs done; the employee-centered supervisor is more interested in satisfying the needs of his subordinates. Some studies showed that production-centered supervision led employees

to low productivity, while employee-centered supervision led to high productivity.³⁹

However, in other studies employee-centered supervision was more of a liability than an asset, especially in the combat situations studied by Halpin and Winer (1957)⁴⁰ and in the production divisions studied by Fleishman, Harris, and Burttt (1955).⁴¹

It appears that there are some inconsistencies in research findings from one study to another. This difference in findings may reflect the fact that the supervision styles which will result in effective group performance depend upon such variables as the traits of the supervisor, the traits of the group, and the job situation.⁴²

³⁹Rensis Likier, "Motivation: The Core of Management" in H. Koontz and C. O'Donnel, eds., Management: A Book of Readings (New York: McGraw-Hill, 1964), pp. 335-365; D. Katz and R. L. Kahn, "Leadership Practices in Relation to Productivity," in D. Cartwright and A. Zander, eds., Group Dynamics (Evanston: Row Peterson, 1960), pp. 554-570.

⁴⁰A. W. Halpin and B. J. Winer, "A Factorial Study of the Leader Behavior Descriptions," in R. M. Stogdill and A. E. Coons, eds., Leader Behavior: Its Description and Measurement (Columbus: Ohio State University, Bureau of Business Research, 1957), pp. 39-51.

⁴¹F. A. Fleishman, E. F. Harris, and H. E. Burttt, Leadership and Supervision in Industry (Columbus: Ohio State University, Bureau of Education Research, 1955).

⁴²Mary P. Follett, Freedom and Coordination (London: Management Publications Trust, 1949), pp. 47-60; R. Tannenbaum and W. H. Schmidt, "How to Choose A Leadership Pattern," Harvard Business Review, Vol. 36, No. 2 (March-April, 1958), pp. 95-101.

As a solution to the supervision style problem, Blake and Mouton (1961) suggested that the best managers are those who combine both people- and production-centered supervision.⁴³ They developed the concept of "managerial grid" which tests the manager's approaches to the two independent dimensions of supervision style. The managerial grid shows that the manager's score on supervision can be obtained by combining his people- and production-centered supervision scores. Misumi and Shirakash (1966) also reported that productivity proved highest under first-line supervisors of the people- and production-centered type, second highest under the production-centered type, and lowest under the people-centered type.⁴⁴

The Work Group

Early in the 1930's the Hawthorne Experiments revealed that the performance of individual workers was affected by their relationship with other co-workers. In the relay assembly room experiments, the continued increment in

⁴³R. R. Blake and J. S. Mouton, Group Dynamics: Key to Decision Making (Houston: Gulf Publishing Company, 1961), pp. 27-38.

⁴⁴Misumi and S. Shirakash, "An Experimental Study of the Effects of Supervisory Behavior on Productivity and Morale in a Hierarchical Organization," Human Relations, Vol. 19, No. 3 (August, 1966), pp. 297-307.

productivity was due to the group cohesiveness that developed in the group. On the other hand, in the bank wiring room studies the informal work group was instrumental in restricting productivity.⁴⁵

There are some research findings about the group influence on individual performance that have been reported since the Hawthorne Experiments. First, if the work group is believed by an individual to be instrumental to the attainment of positively valent outcomes, it will acquire positive valence for him.⁴⁶ The attractiveness of the group for a given person depends upon the strength of his needs and upon the perceived suitability of the group for satisfying these needs.⁴⁷

Second, the cohesiveness of a group enforces its group norms on the behavior of the group members. Thus, a higher productivity was obtained in highly cohesive groups with positive standards regarding productivity, while a lower productivity was found in highly cohesive groups with

⁴⁵Roethlisberger and Dickson, loc. cit.

⁴⁶Vroom, op. cit., p. 120.

⁴⁷See Harold J. Leavitt, Managerial Psychology, 2nd Ed. (Chicago: The University of Chicago Press, 1964), pp. 28-40.

negative standards regarding productivity.⁴⁸

Third, a group norm or standard serves as a guide for the behavior of the group members. Thus, individual productivity varies according to the rewards received from the group and management.⁴⁹ If an individual is rewarded both by the group and management, he will produce close to the standard set by the group. If the worker is rewarded by management but not by the group, he will produce close to the standard set by the management. When the workers are rewarded by the group, but not by management, he will produce close to the group norm but lower than when he will be rewarded both by management and the group. When he is not rewarded by either the group or management, he becomes a lower producer.

Job Content

The motivational consequences of job content have been highlighted by Herzberg and his associates (1959) in the

⁴⁸Stanley F. Seashore, Group Cohesiveness in the Industrial Work Group (Ann Arbor: Institute for Social Research, University of Michigan, 1954).

⁴⁹A. Zalesnick, C. R. Christensen, F. J. Roethlisberger, The Motivation, Productivity, and Satisfaction of Workers (Boston: Harvard University, Graduate School of Business Administration, Division of Research, 1958), pp. 436-437.

two-factor theory of job satisfaction.⁵⁰ Focusing their attention particularly on the motivation of accountants and engineers, they studied job satisfaction and dissatisfaction caused by different job factors. Their study concluded that factors causing job satisfaction differ from factors causing job dissatisfaction.⁵¹

Interpretation of the study leads to the conclusion that job satisfaction results primarily from the jobs that provide such intrinsic job factors as achievement, recognition, challenge, responsibility, advancement, and growth; job dissatisfaction results from the jobs where employees are only concerned with such extrinsic job factors as wages, company policies, supervision, interpersonal relationships, and working conditions. The jobs that provide employees with intrinsic job satisfaction are related to positive motivation, because they provide the means of satisfying such motivational needs as self-esteem and self-actualization. The jobs that provide employees only with extrinsic job satisfaction do not have motivational value but only satisfy maintenance needs. Theories and research

⁵⁰ Herzberg, Mausner, and Snyderman, loc. cit.

⁵¹ Frederick Herzberg, "The Motivation-Hygiene Concept and Problems of Manpower," Personnel Administration, Vol. 27, No. 1 (January-February, 1964), pp. 3-7.

related to the two-factor theory are discussed later in this chapter.

Some job contents that are frequently studied in connection with job satisfaction are job level, specialization, and skill requirements. First, there is a positive relationship between job level and job satisfaction. Gurin, Veroff, and Feld (1960) reported that job satisfaction declined with the descending orders of job level of professionals, managers, clericals, sales, skilled workers, semiskilled workers, unskilled workers, and farmers.⁵²

The interpretation of this finding is that the positive relationship between job level and job satisfaction is due to the fact that positions at high levels provide employees with more opportunities for satisfying motivational needs which are associated with personal growth.

Second, increased specialization during this century took intrinsic work value from the jobs.⁵³ Fragmentation of jobs has destroyed the meaning of work for employees, especially at the level of factory workers.

⁵²G. Gurin, J. Veroff, and S. Feld, American View Their Mental Health (New York: Basic Books, 1960).

⁵³Meggison, op. cit., pp. 116-117.

Third, an individual derives satisfaction from jobs which permit him to use skills and abilities. Vroom (1962) reported a positive relationship between the extent to which jobs permit employees to use their abilities and their job satisfaction.⁵⁴

In essence, the jobs that provide employees with interesting and rewarding experiences tend to make the employees satisfied with their jobs. The employees whose needs are satisfied by the job then remain in the organization as productive workers more often than those who are not satisfied in the work situation.

Promotional Opportunity

The possibility of promotion is an effective motivator, partially because it can serve as the means of satisfying different needs, and partially because it involves changes of supervision and job content which will provide an employee with a challenging and rewarding experience with high rewards. One study showed that advancement opportunities usually precipitate high productivity.⁵⁵

⁵⁴Victor H. Vroom, "Ego-involvement, Job Satisfaction, and Job Performance," Personnel Psychology, Vol. 5, No. 2 (Summer, 1962), pp. 159-177.

⁵⁵Herzberg, Mausner, and Snyderman, op. cit., p. 80.

Gellerman (1963) listed four main attractions of promotion that could be the major reason for employees wanting promotion.⁵⁶ First, promotion offers an employee an opportunity for further personal growth. It enlarges his sense of competence, and obtaining the promotion provides him with strong psychological rewards which will enhance his feeling of power and growth. Second, it realizes man's desire for autonomy. To be one's own boss is an advantage for someone who feels capable and willing to make his own decisions. Third, it provides a man with a strong feeling of prestige. Prestige is usually associated with higher positions which acknowledge the importance of the job, responsibility, and social status. Finally, promotion is accompanied with an increase in income. By combining the financial gain with a psychological gain, promotion creates far better motivational impact than the same amount of money could achieve by itself. Promotion puts a person into a higher salary range, thereby raising the upper limit of pay. Promotion becomes an effective incentive when it is made contingent upon individual merit or performance rather than nepotism or favoritism.⁵⁷

⁵⁶Gellerman, op. cit., pp. 212-213.

⁵⁷March and Simon, op. cit., p. 61.

Physical Environments

The study of the effects of physical environments on productivity was the original hypothesis of the Hawthorne Experiments. The result, however, turned out to be quite contrary to the original hypothesis. The Experiments concluded that neither deterioration nor improvement of physical working conditions had significant effects on productivity. Many studies thereafter lessened the importance of the effects of physical working conditions on productivity and ranked them as least contributors to productivity.⁵⁸

Interpreting this trend in terms of Herzberg's factor theory, it may be concluded that physical working conditions are hygienic factors which have no motivational value when they are adequate but become detriments to productivity when they are not adequate.

In some cases, however, improvement of physical environments beyond an adequate level contributes high productivity. One study showed that an installation of a music facility had favorable effects on productivity, although the effect of music varied from one industrial situation to another.⁵⁹

⁵⁸Roger Harrison, "Sources of Variation in Managers' Job Attitudes," Personnel Psychology, Vol. 13, No. 4 (Winter, 1960), pp. 425-434.

⁵⁹Richard S. Uhrbrock, "Music on the Job: Its Influence on Morale and Production," Personnel Psychology, Vol. 14, No. 1 (Spring, 1961), pp. 9-38.

Theory of Satisfiers and Dissatisfiers

The attempt to determine the relative importance of incentives in motivating employees has been the major concern of many researchers and practitioners in management. The question of whether incentives contribute on job satisfaction and hence on employees' motivation was investigated by Herzberg, Mausner, and Snyderman (1959, 1966).⁶⁰ In their two-factor theory, the factors involved in producing job satisfaction were separated and distinguished from the factors which led to job dissatisfaction.

Factors that lead to job satisfaction are largely associated with a person's motivational needs which stimulate him to strive for personal growth and development. Conversely, the dissatisfiers, or hygiene factors, are primarily associated with a person's maintenance needs and will not motivate him beyond an adequate level of satisfaction of these needs.⁶¹ Similar studies were conducted, but with slightly different results.

⁶⁰ Herzberg, Mausner, and Snyderman, loc. cit.; F. Herzberg, Work and the Nature of Man (Cleveland: World, 1966).

⁶¹ Herzberg, Mausner, and Snyderman, op. cit., pp. 75-80; See also G. Halpern, "Relative Contributions of Motivator and Hygiene Factors to Overall Job Satisfaction," Journal of Applied Psychology, Vol. 50, No. 2 (April, 1966), pp. 143-152.

Friedlander (1966) reported that within a sample of white-collar workers, which was composed largely of technical personnel, low performers were motivated primarily by the social environment of the job and to a lesser extent by the opportunity of gaining recognition through advancement.⁶² Few significant relationships were found between intrinsic self-actualizing motivation and job performance. Nevertheless, there was some indication that those motivated by intrinsic self-actualizing aspects of their work were superior in performance. In the blue-collar workers, on the other hand, no significant differences between the motivational patterns of high performers and low performers were found.

Comparisons among the three potential motivators for high performers indicated a hierarchy: intrinsic work was of greatest importance, recognition was second, and the social environment was valued least important.⁶³

Another variation was reported by Wernimont (1966). In a sample of accountants and engineers who described past

⁶²Frank Friedlander, "Motivations to Work and Organizational Performance," Journal of Applied Psychology, Vol. 5, No. 2 (April, 1966), pp. 143-152.

⁶³Loc. cit.

satisfying and dissatisfying job situations, it was found that both intrinsic and extrinsic factors could be sources of both satisfaction and dissatisfactions, but intrinsic factors were stronger in both cases.⁶⁴ Similar findings were reported by Dunnette (1965). In a sample of white-collar workers, some of Herzberg's motivators were related to satisfying job situations, but hygiene factors were not related to dissatisfying job situations.⁶⁵ These findings imply that the same factors could be contributors to both satisfaction and dissatisfaction.

Hinrichs and Mischkind (1967) also reported that when job satisfaction was compared for high- and low-satisfaction groups of technicians, motivators predominantly influenced satisfaction positively for the high-satisfaction group, while for the low-satisfaction group motivators had equal positive and negative influence. Hygiene factors acted predominantly negatively for the high satisfaction group

⁶⁴Paul F. Wernimont, "Intrinsic and Extrinsic Factors in Job Satisfaction," Journal of Applied Psychology, Vol. 50, No. 1 (February, 1966), pp. 41-50; see also D. K. Lahiri and S. Srivastva "Determinants of Satisfaction in Middle-Management Personnel, Journal of Applied Psychology, Vol. 51, No. 3 (June, 1967), pp. 254-265.

⁶⁵M. D. Dunnette, "Factor Structures of Unusually Satisfying and Unusually Dissatisfying Job Situations for Six Occupational Groups," Paper presented at Midwest Psychological Association, Chicago, April, 1965.

and predominantly positively for the low-satisfaction group.⁶⁶

Interpreting these findings in terms of Maslow's need hierarchy, the following generalizations can be made about the motivational nature of incentives. First, such incentives as promotional opportunities and the intrinsic nature of job contents are associated with such motivational needs as achievement, advancement, recognition, and growth. Furthermore, these motivators are different from those such as financial, social environment, physical environment, and supervision. The latter group is associated with such maintenance needs as financial security and socialization.

Second, individuals in lower level occupations are more likely to be motivated by hygienic incentives because they are not sufficiently gratified with those maintenance needs. Third, as the hygienic incentives adequately satisfy those maintenance needs, intrinsic incentives can appropriately motivate motivational needs because employees at this level are reasonably satisfied with their maintenance

⁶⁶J. R. Hinrichs and L. A. Mischkind, "Empirical and Theoretical Limitation of Two-Factor Hypothesis of Job Satisfaction," Journal of Applied Psychology, Vol. 51, No. 2 (April, 1967), pp. 191-200; also see Ronald J. Burke, "Are Herzberg's Motivators and Hygienes Unidimensional?" Journal of Applied Psychology, Vol. 50, No. 4 (August, 1966), pp. 317-321.

needs. Fourth, in some cases a given incentive can be the source of both motivation and demotivation even in the same occupational level. The effectiveness of the incentive depends on its association with other incentives. For instance, supervision is a hygienic incentive, but its association with recognition can be a strong motivator for employees even at the high level of organizational hierarchy.

Methods of Incentive Application

It is management's task to apply incentives which will induce employees to the productive activities of the organization. There are several methods of incentive application in industry. One of the conventional methods of incentive is the "carrot and stick" approach that is sometimes called the positive and negative motivation. The other commonly advocated method is to match employee needs with the proper incentives.

Positive and Negative Approach

Positive incentive occurs when rewards are offered for acceptable performance, while negative incentive is to refrain from the offer or to threaten punishment for unacceptable performance. The application of the reward

and punishment principle in motivating people is the most dominant method of motivation in our society, for it is easy for many people to understand, and, in fact, is a plausible means of influencing a person.

Although reward and punishment are effective in motivating approach-avoidance behavior, the effectiveness of the principle, especially of punishment, is limited in a practical sense because some uncontrolled factors may introduce undersirable conditions.⁶⁷ Some difficulties associated with the application of punishment are as follows: First, as the organizational members improve their economic positions, their dependency on the particular organization decreases. Thus, any punishment by the organization as a means of motivation usually causes them to leave the organization rather than leading to positive motivation. Second, punishment may frustrate the person punished, especially if he perceives it as unfair. Third, punishment and the feeling of being punished can create a hostile state of mind, thereby increasing an unfavorable

⁶⁷ R. M. Church, "The Varied Effects of Punishment on Behavior," Psychological Review, Vol. 70, No. 4 (July, 1963), pp. 360-402.

attitude.⁶⁸ The threat of punishment also creates fear and reduces the acceptance of ideas. Finally, in order to operate the punishment system effectively, the barriers such as laws, regulations, and norms surrounding the psychological situation should be firm enough so that the person may not escape from it.⁶⁹

Matching Incentives and Needs

As was previously pointed out, people organize, join, and remain in the organization and contribute to the organizational success in order to achieve their individual objectives. Therefore, the problem in managerial motivation is to arrange organizational conditions and apply incentives in such a manner that people can accomplish their own goals through their contributions to the attainment of the organizational goals.

One suggested method of matching incentive with needs is to determine the dominant needs of employees and then choose the specific incentives which will stimulate the

⁶⁸J. A. Dinsmoor, "Punishment: I. The Avoidance Hypothesis," Psychological Review, Vol. 61, No. 1 (January, 1954), pp. 34-46; See John Huberman, "Discipline Without Punishment," Harvard Business Review, Vol. 42, No. 4 (July-August, 1964), pp. 62-68.

⁶⁹Lewin, op. cit., p. 127.

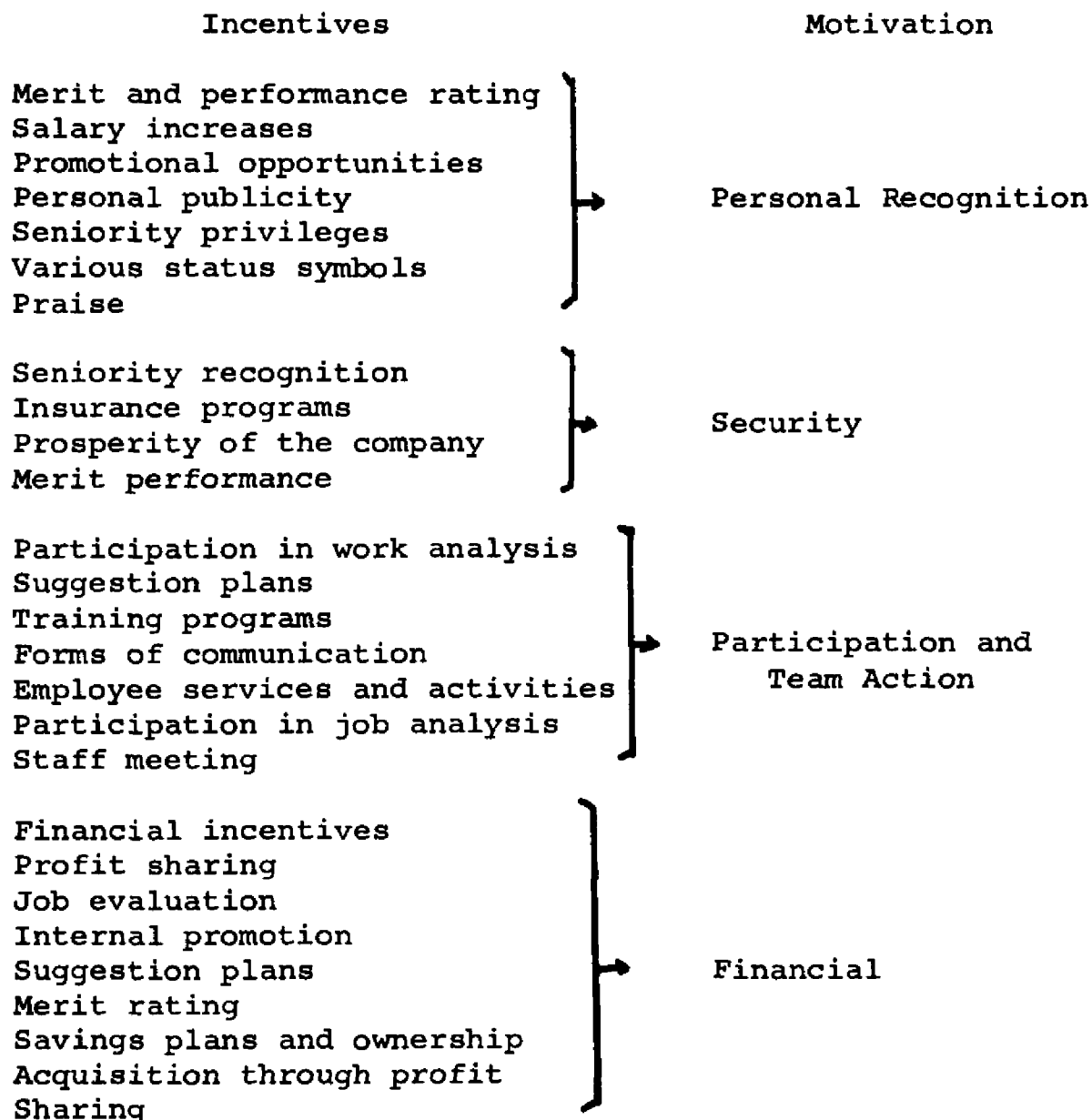
employees to increase productivity for the benefits of the individuals and the organization.⁷⁰ In other words, in utilizing an incentive system, the manager must be aware of the level of needs prevailing among employees at a given moment and then provide with them with appropriate incentives which are congruent with their needs.

Employees in an organization may have various needs which they think should be satisfied by their contributions to the organization, and the organization has various types of incentives which can be used to motivate its employees. Congruence between these two sets of variables (needs and incentives) is one of the critical conditions that lead to an effective incentive system.

Several efforts have been made to give guidelines for matching motives and incentives. The following chart shows an example of how this can be done.⁷¹

⁷⁰ Megginson, op. cit., p. 549.

⁷¹ Guy Ferguson, "Motivation and the Motivator," Best's Insurance News, Life Edition, Vol. 66, No. 4 (August, 1965), pp. 24-27.



Another method is to ask management which incentives are available and ask employees what ones they want. In a hospital study supervisors and nurses were asked to rank incentives in the order of importance to the nurses. The nurses placed their desires in the order of salary increase, praise, promotion, better job, and educational opportunities, while supervisors ranked them in the order of

promotion, praise, educational opportunities, salary increase, and performance appraisal report.⁷² This study shows some discrepancy between what the employees want to receive and what management want to offer.

Another study reported some agreement between the importance of different incentives as they are seen by both management and scientific employees. They ranked them in the order of merit salary increases, promotion, challenging job, encouragement to publish, and so forth.⁷³

Although this method does not guarantee perfect matching of incentives and needs, it may help to minimize considerable difference in perception between management and employees regarding the importance of particular incentives.

Argyris' Incongruency

In the past, there has been a lack of congruency between the needs of employees and the organizational

⁷²W. G. Bennis, N. Berkowitz, M. Affinito, and M. Malone, "Authority, Power and the Ability to Influence," Human Relations, Vol. 11, No. 2 (May, 1958), pp. 143-155.

⁷³A. B. Chalupsky, "Increase Practices as Viewed by Scientists and Managers of Pharmaceutical Laboratories," Personnel Psychology, Vol. 17, No. 4 (Winter, 1964), pp. 385-401.

practices of the formal organization.⁷⁴ Bureaucratic organizational practices, based on such formal organizational principles as specialization, chain of command, unity of direction, and span of control, are basically incongruent with such individual needs as independence, self-expression and growth, for the organization demands employees to be passive, dependent, and submissive.

As a result, the forces which may operate against the organizational success are: (1) the development of such psychological mechanisms as aggression, denial, repression, suppression, inhibition, conversion, over-compensation, rationalization, projection, and so forth as the means of expressing their feelings of frustration;⁷⁴ and (2) the development of informal groups and trade unionism which may work against the demands of the formal organization.

Management's reaction to these attitudes of the employees was usually to strengthen the bureaucratic rules and regulations in order to control the behavior of employees. The consequences of this vicious circle are: first, the promotion of the bureaucratic decay which makes

⁷⁴Chris Argyris, Personality and Organization (New York: Harper and Row, 1957), p. 233.

⁷⁵Ibid., pp. 41-45.

the bureaucratic rules and regulations obstacles to organizational efficiency;⁷⁶ and second, the reduction of the flexibility of searching behavior (or motivation) of employees.⁷⁷

As a solution to this type of problem, Argyris (1957) suggests three types of incentives. First, jobs should be enlarged to give employees an opportunity to use more of their abilities and to give them more control over their jobs. Second, "democratic leadership" is recommended for managers so that subordinates feel more independent within the organization. Third, the manager, has to diagnosis the situation and use "reality leadership" when the democratic leadership cannot be employed appropriately.⁷⁸

SUMMARY AND CONCLUSION

Theories of incentive have evolved through various stages of answering the question of how to influence or motivate people by means of external stimuli. Although incentives are the major means of motivation, the study

⁷⁶Robert K. Merton, "Bureaucratic Structure and Personality," in A. Etzioni (ed.), Complex Organizations (New York: Holt, Rinehart and Winston, 1961), p. 54.

⁷⁷March and Simon, op. cit., p. 39.

⁷⁸Argyris, op. cit., pp. 232-237.

of incentives alone cannot explain the phenomena of human motivation. Some incentive theorists fused their incentive theories with need or drive variables, but they failed to include another important motivational variable-- perception.

Theories of industrial motivation have been primarily concerned with the application of organizational incentives. This trend occurred mainly because incentives are under management control while needs and perceptual mechanisms are under the employees' control. Furthermore, the organizations can only indirectly control the needs and the perceptions of employees through the application of incentives.

In the process of applying incentives, however, they are nevertheless concerned about the need of employees, for they believe that motivation is the process of applying incentives which will satisfy the needs of employees so as to reinforce the behavior of employees on the continued basis. As a result, many experiments have recently been directed toward the studies of interaction between organizational incentives and individual needs.

The studies of incentives and needs by themselves, however, could not explain the individual differences in

responding to the same internal and external stimuli under a given condition. These differences are caused by the fact that each individual perceives the meaning of stimuli in a unique manner. Thus, the study of perceptual variables along with needs and incentives is inevitable for understanding human motivation.

CHAPTER V

PERCEPTIONAL THEORIES OF MOTIVATION

In attempting to answer the third question, why people respond differently to the same stimulus, many scholars have developed perceptual theories of motivation. Individuals respond differently to the same internal and external stimuli according to their own ways of perceiving the stimuli. An automobile is perceived as an automobile rather than as a tree or as water. But different people perceive the same automobile in different ways: a passenger may perceive it as a means of transportation; a teenager may see it as a means of enjoyment or a status symbol; a car dealer may see it as merchandise. Perception, therefore, is not a passive imprinting of the environmental picture, but an active tool for interpreting the meanings of environmental stimuli in relation to the purposes of the living organism. Perception refers to the cognitive "process by which people select, organize and interpret

sensory stimulation into a meaningful and coherent picture of the world."¹

Perception is of extreme importance in understanding human behavior, because actions are based on what people think about themselves and the way they perceive external stimuli. The study of perception in industrial motivation, however, has been neglected in the past in favor of the study of incentives in connection with the study of needs. As a result, much is known about the interactions between needs and incentives, but little is known about their interactions with perceptual variables.

The purpose of this chapter is to discuss some of the theories which deal with perceptual variables in motivation. Discussions in this chapter are divided into four major headings: (1) the perceptual problems in industrial motivation, (2) the factors which influence perception, (3) the functions of perception in motivation, and (4) the methods of changing managerial perception.

¹B. Berelson and G. A. Steiner, Human Behavior (New York: Harcourt, Brace and World, 1964), p. 88.

Perceptual Problems in Industrial Motivation

Dominant theories of industrial motivation basically assume that people will be motivated if they have needs which demand gratification, and that organizational incentives instigate and satisfy their needs. The studies of needs and incentives, by themselves, cannot predict the particular direction or strength of an employee's response to the stimuli. The following discussions explain some perceptual problems and difficulties in motivating employees in organizations.

March and Simon's Perceptual Theory

According to March and Simon (1958), certain difficulties arise in understanding and predicting the behavior of employees.² First, a stimulus may have unanticipated consequences because it evokes a larger set of meanings of stimuli than expected, or the set evoked is different from that expected. For example, when the organism has a rich network of associations with any given element, the single cue evokes a large number of possible responses, expectations, and attitudes about their consequences. Second, the

²James G. March and Herbert A. Simon, Organizations (New York: John Wiley, 1958), p. 32.

stimulus may include elements that are not intended by the organization. For example, an employee may have additional information from one stimulus given by his supervisor. Third, the person receiving the stimulus may mistake it for another. For example, an employee may interpret a stimulus given by his supervisor differently from what the supervisor originally intended. The difficulties of predicting human behavior create some problems in motivating employees, for the behavior patterns of employees may not be influenced by the objective organizational incentives but be the employee's subjective perceptions about the incentives.

Nevertheless, March and Simon speculated that a man can be influenced by (a) changing the values associated with given states of affairs, (b) changing the perceived consequences of an alternative of action, and (c) changing the set of states of affairs that are evoked either by changing cues or by changing connections between cues and evoked sets.³ Correspondingly, individual motivation to produce is a function of (a) the factors relating to the goals of individuals, (b) the factors relating to the expectations of consequences, and (c) the factors relating

³Ibid., p. 52.

to the set of alternatives perceived at the moment of decision.⁴

Interpreting those three major factors in general terms, the first class of factors may be said to stand for motives, the second class for expectations, and the third for incentives. That is, motivation to produce can be expressed as a function of motives, expectations, and incentives. However, March and Simon's theory of influence did not specify the functional relationship between these major variables. In this respect, their theory is a model.

Based on the theory of influence, some general propositions about motivational phenomena can be drawn. First, the stronger the propensity of the individual is to achieve needs, the stronger the general disposition of the individual will be to strive for the satisfaction of the needs.⁵

Second, the more alternatives the person has in the environment, the less important the consequences associated

⁴Ibid., p. 53.

⁵David C. McClelland, "Toward A Theory of Motive Acquisition," American Psychologists, Vol. 20, No. 5 (May, 1965), pp. 321-333; D. C. McClelland, J. W. Atkinson, R. A. Clark, and E. L. Lowell, The Achievement Motive (New York: Appleton-Century, 1953).

with a particular incentive will be. Third, the greater the dependence of organization is on performance, the more favorable are the perceived consequences of increased productivity.⁶ Fourth, the more the person perceives himself capable, the more probable are the consequences of the task attainment. Fifth, the more the individual perceives his goals to be compatible with the organizational goal, the greater are the chances he will contribute to the organizational success.

Dillman's Behavioral Expectations

Dillman (1967), in recognizing the significance of perception in human behavior, built a behavioral perceptual model which can be applied in selecting personnel.⁷ The methods for selecting personnel have traditionally been preoccupied with appraising the ability of the candidate to perform the job, but have neglected evaluation of the individual's perceptual aspects. In organizations there are two sets of organizational expectations-constraints restricting the patterns of human behavior: (1) formal

⁶March and Simon, op. cit., p. 58.

⁷Everett G. Dillman, "A Behavioral Science Approach to Personnel Selection," Academy of Management Journal, Vol. 10, No. 2 (June, 1967), p. 185-198.

expectations-constraints which include organization structure, job assignments, formal rules and regulations, and physical environment; and (2) informal expectations-constraints which include roles, status, and codes of conducts. As an individual's perceptions about the sets of expectations-constraints determine or influence his patterns of response to these sets, and as the individual's satisfaction and motivation will depend upon his perceptual patterns of the sets, management must also evaluate the candidate's cognitive style.⁸ One's perceptions are colored by his particular cognitive world of himself which is composed of expectations, beliefs, values, norms, needs, and goals.

The uniqueness of individuals in responding to the structure of expectations-constraints stems from the following sources. First, each individual perceives the sets of expectations-constraints in a unique manner. Second, the self-concepts of each individual differ. Finally, the basic personality structures of individuals differ.⁹ Therefore, Dillman concluded that management must

⁸Ibid., p. 194.

⁹Ibid., p. 197.

appraise the perceptual pattern of an applicant as well as his ability.

The two previous sections were primarily concerned with the perceptions of employees in organizations and the effects of perceptions on motivation. The following sections discuss the perceptions that management has on its employees and the effects of management's perceptions on the motivation of employees.

McGregor's Management Assumptions

McGregor's Theory X and Theory Y essentially attempt to explain the consequences of perceptions that management holds about the human nature of employees.¹⁰ Theory X, the traditional theorists' view of human behavior, is characterized by the assumptions that (1) most people dislike to work, (2) they must be directed and controlled to be motivated, and (3) they prefer to be directed and want to avoid responsibility. In accentuated form, this theory characterizes organizations that specify very rigid standard and stringent rules and regulations that are rigorously enforced.

¹⁰Douglas McGregor, The Human Side of Enterprise (New York: McGraw-Hill, 1960), pp. 33-34; see also Douglas McGregor, Leadership and Motivation (Cambridge: The M.I.T. Press, 1966), pp. 3-20.

McGregor contended that Theory X is based upon mistaken notions of what is cause and what is effect and, as an alternative, he proposed Theory Y. Theory Y assumes that individuals are not passive or resistant but have the capacity for assuming responsibility and possess a readiness to work toward organizational goals. This theory is based upon the assumptions that (1) man's desire to work is as natural as his desire to play or rest; (2) man is capable of self-direction; (3) an individual's motivation is a function of the rewards associated with his achievement; (4) the average person learns to accept and to seek responsibility; (5) creativity is widely distributed among the population; and (6) the mental capacity of man is only partially utilized.¹¹ Management practices, based on Theory Y, include decentralization, delegation, job enlargement, discipline by self-control, emphasis on interdependency between management and workers, participative supervision, management by objectives, and so forth.

In essence, management assumptions about human nature determine the way management treats employees and actually

¹¹McGregor, The Human Side of Enterprise, op. cit., pp. 47-48.

leads employees to the positions it originally assumed by the self-fulfilling prophecy.¹²

Katz's Management Assumptions

The consequences of poor management assumptions are well described by Katz (1960). He contended that the conventional way of thinking about how an enterprise should be organized and administered is obsolete.¹³ Under the conventional management philosophy, jobs are structured in terms of a hierarchy of positions and individuals' roles or expected patterns of behavior are predetermined in the rigid organizational structure. By strengthening the structure, initiative, contribution, and creativity of employees have been sacrificed in the search for certainty.

Managerial practices, based on managerial assumptions, also influence the effectiveness of incentives offered to employees. This is discussed in the following section.

¹²Robert K. Merton, Social Theory and Social Structure (New York: The Free Press of Glencoe, 1957), pp. 421-436.

¹³Robert L. Katz, "Management Assumptions and Organizational Consequences," in Lawrence, et. al., (ed.), Organizational Behavior and Administration (Homewood: The Dorsey Press, 1961), pp. 734-746.

Mosel's Subjective Probability

In the past, the effectiveness of an incentive has usually been assumed to be the function of its attractiveness alone. Mosel (1962), however, stated that the effectiveness of an incentive is determined not only by its attractiveness but also by the subjective probability that the reward will follow the motivated behavior.¹⁴ The relationship was stated by the formula: $I = A \times P$, where I is the motivating power of the incentive, A the incentive's attractiveness, and P the employee's subjective probability. The subjective probability is, in large part, influenced by supervisory attitudes toward employees.

According to Mosel, the equation yields the important conclusion that incentives frequently fail, not because they lack attractiveness to the employees, but because the employee has a very pessimistic attitude or low subjective probability about his action leading to the offered reward. He concluded, therefore, that the supervisor via various

¹⁴James N. Mosel, "Incentive, Supervision and Probability," Personnel Administration, Vol. 25, No. 1 (January-February, 1962), pp. 9-14; See also Edward E. Lawler, III, "Attitude Surveys and Job Performance," Personnel Administration, Vol. 30, No. 5 (September-October, 1967), pp. 3-5, 22-24.

supervision styles has a significant effect on the employees' subjective probabilities.¹⁵

In essence, the above discussions lead to the conclusion that perception is one of the major variables that determine the level of motivation. Perceptual problems in organizations are endless. Interpersonal, intergroup, and intraorganizational conflicts are in large part the result of the differences of perception among the parties involved. Breaking through the perceptual walls is the major task of management in order to maintain harmonious work groups.

Influencing Factors of Perception

In every instance of perception there are several fundamental elements that influence the patterns of perceptual response: (1) the experiencing individual (the self); (2) the object of perception (the environment); and (3) the process of perception. The factors which influence the person's mode of responding to his internal and external stimuli can be classified into three major categories: (1) the self-concept, (2) cognitive style and attitude, and

¹⁵Ibid., p. 10.

(3) the environmental factors. These factors basically explain the uniqueness of a person in his perceptual mechanism.

The Concept of Self

The concept of self is the organization of the perceptions of the self. The self is the central part of the individual's phenomenal field around which the world is organized. Combs and Snygg (1959) thus concluded that all perceptions derive their meaning from their relation to the phenomenal self. What a person thinks and how he behaves are largely determined by the concepts he holds about himself and his abilities.¹⁶ The motivation toward which a person is striving can be understood in terms of the concept he has of himself. Essentially, the individual's sense of competence about his ability gradually becomes a sort of self-fulfilling prophecy. Therefore, he seldom achieves more than what he expects because he will not try to achieve more than he thinks he can.

Rogers' Self-Concept

Rogers (1959) viewed the self-concept as an ego-defensive mechanism by which a person protects himself

¹⁶A. W. Combs and D. Snygg, Individual Behavior, Rev. Ed. (New York: Harper and Row, 1959), pp. 122-144.

from acknowledging the basic truths about himself of harsh realities in his environment in the process of maintaining and enhancing the self.¹⁷ The central ideas in Rogers' theory of the self may be stated as follows:

1. The theory of the self, as a part of the general personality theory, is phenomenological. The central idea in phenomenology is that man lives essentially in his own personal and subjective world.
2. The self becomes differentiated, as a part of the actualizing tendency, from the environment, through interaction with the environment.
3. The self-concept is the organization of the perceptions of the self.
4. The self-concept becomes the most significant determinant of response to the environment.
5. Whether learned or inherent, needs for self-esteem and self-actualization develop with the self-concept.¹⁸

These concepts dramatize the fact that in order to understand a person's motivation, one must know the organization of perception which an individual has about himself and about the world around him.

¹⁷Carl R. Rogers, Client Centered Therapy (Boston: Houghton Mifflin, 1951), p. 195.

¹⁸C. H. Patterson, "The Self in Recent Rogerian Theory," Individual Psychology, Vol. 17, No. 1 (May, 1961), pp. 5-11.

Vroom's Ego-Involvement

In the domain of human motivation an individual's ego-involvement in a task or job influences the level of motivation. Vroom (1962) conceptualized the ego-involvement as the "extent to which self-esteem is affected by his perceived level of performance."¹⁹ Vroom concluded that (1) persons who are ego-involved in their jobs are rated higher in job performance than those who are not ego-involved in their jobs, and (2) the job satisfaction and satisfaction with self of persons who are ego-involved in their jobs are significantly more positively related to the amount of their opportunity for self-expression in their jobs than is the case for persons low in ego-involvement.²⁰ These conclusions lead to the hypothesis that a person will be motivated to perform on a task or job to the extent that performance is perceived to be instrumental to the goal attainment and relevant to certain aptitudes, abilities, or other attributes which are central to the person's self-concept. Thus, motivation to produce is a function of the attractiveness of goals and

¹⁹Victor H. Vroom, "Ego-Involvement, Job Satisfaction, and Job Performance," Personnel Psychology, Vol. 5, No. 2 (Summer, 1962), p. 161.

²⁰Ibid., p. 176.

the person's perception of the usefulness of productivity as a path to the attainment of these goals.²¹

In essence, it is the person's perceptions which determine his conceptions of what he can do or cannot do. A person's motivation is affected by this concept of self. Furthermore, a person's growth is a change in his self-concept. The process of growth is a dynamic process of changing self-examination, self-expectation, and self-direction.²²

Cognitive Style and Attitude

Personality, relative to motivation, refers to such specific determinants of behavior as attitudes, motives, interests, sentiments, traits, and habit structures which influence the pattern of behavior. Attitude as a central determinant of perception refers to "a readiness of the individual to react toward or against a psychological object to a particular degree and in a certain pattern."²³

²¹Ibid., p. 174.

²²Paul J. Brouwer, "The Power to See Ourselves," Harvard Business Review, Vol. 42, No. 6 (November, 1964), pp. 156-165.

²³Paul T. Young, Motivation and Emotion (New York: John Wiley, 1961), p. 519.

The major functions which attitudes perform for the personality relative to motivation are: (1) the instrumental function by which the individual strives to maximize the rewards in the environment and to minimize the penalties; (2) the ego-defensive function by which a person protects himself from the environment; (3) the value-expressive function in which the individual derives satisfaction from expressing attitudes appropriate to his personal values; and (4) the knowledge function by which the individual seeks the frames of reference for finding and understanding the meanings of the world around him.²⁴

Attitudes include both the affective element, by which a person classifies the pleasantness or unpleasantness of the stimulus, and the cognitive element, by which a person forms his belief about the stimulus.²⁵ The interactions between the affective and the cognitive elements constitute a particular value system for an individual. This value system is closely related to the individual's self-concept. Peak (1955) stated that when disparity exists between the

²⁴Daniel Katz, "The Functional Approach to the Study of Attitudes," in Costello and Zalkind (Eds.), Psychology in Administration (Englewood Cliffs: Prentice-Hall, 1963), pp. 250-259.

²⁵Ibid., p. 253.

affective and the cognitive element, there is a general tendency to reconcile these two components.²⁶ A resultant postulate is that when the affective and cognitive components of a person's attitude are mutually consistent his attitude is in a stable state, but when the affective and cognitive components are mutually inconsistent the attitude is in an unstable state and will undergo reorganization by altering either the cognitive structure or the affective elements of the structure.

Determinants of Cognitive Style

Although the study of the determinants of perception is beyond the scope of this paper, it seemed worthwhile to briefly discuss the major determinants that affect the perception. The major determinants of perception can be classified into three major categories: (1) hereditary elements, (2) the reference groups, and (3) the broad cultural environment.

Hereditary Elements. Heredity provides a person with the basic capacity for survival and development. It includes such physiological factors as body make-up,

²⁶Helen Peak, "Attitude and Motivation," in M. R. Jones (ed.), Nebraska Symposium on Motivation (Lincoln: University of Nebraska Press, 1955), pp. 521-585.

muscular and nervous systems, as well as a basic mental capacity. The hereditary elements determine a maximum capacity or limit within which a person can develop a unique pattern of perceptual mechanisms through the interactions with his environment. A person's uniqueness, therefore, is not only determined by his hereditary elements but also by the interactions with his environment.

Reference Groups. The family, the school, the peer group, and other primary groups are the most influential institutions in shaping the emerging perceptual pattern. Throughout a person's life the affiliations with informal work groups and other major group memberships provide a person with norms and standards which mold the person's cognitive style and attitudes. The norms of a reference group define the roles that a person has to play in the group.

Broad Cultural Environment. The term "culture" refers to the norms of the society which is composed of many groups and organizations. It, thus, includes the customs, habits, and traditions that are commonly shared by the people in a given society. Differences in attitudes are found among different cultures with respect to the acceptable ways of responding to other people, raising children, the use of authority, and the ways of getting social approval.

Perceptual Functions in Motivation

The primary function performed by perception in motivation is to set an operational goal for which an individual strives. The setting of a goal itself seems to serve as a motivating force. In determining an operational goal a person interprets the meanings of stimuli received by his sensory organisms and determines the level of expectation in attaining a goal for which he actually and realistically strives. An individual reacts to stimuli according to what he perceives about himself and about the world around him, and then acts in the best manner to serve the self within the boundary of his perceptual world. Discussions in this section are divided into three areas: (1) cognitive dissonance, (2) subjective utility and probability, and (3) level of aspiration.

Function of Cognitive Dissonance

According to a cognitive theory of motivation a cognitive discrepancy between two entities creates a motivating state in an organism. To quote Festinger (1958):

If a person knows two things, for example, something about himself and something about the world in which he lives which somehow do not fit together, we will speak of this as cognitive dissonance. . . . If two cognitions are dissonant with each other there will be some tendency for

the person to attempt to change one of them so that they do fit together, thus reducing or eliminating the dissonance.²⁷

Festinger thus concluded that a cognitive dissonance resembles a state of need and it has a motivating force. This concept of cognitive dissonance is closely related to the concept of expectancy of goal attainment and the level of aspiration which is discussed in the following section.

Some studies support Festinger's concept of cognitive dissonance. In one experiment, when a group of hourly workers were made to believe that they were being overpaid, they displayed greater productivity than another group that was led to believe it was fairly paid.²⁸ Andrews (1967) also reported that underpaid subjects maintained equity by increasing work quantity at the expense of work quality, whereas overpaid subjects maintained equity by reducing work quantity and increasing quality.²⁹ These

²⁷Leon Festinger, "The Motivating Effect of Cognitive Dissonance," in Costello and Zalkind, op. cit., pp. 170-171.

²⁸J. S. Adams and W. B. Rosenbaum, "The Relationship of Worker Productivity to Cognitive Dissonance About Wage Inequities," Journal of Applied Psychology, Vol. 46, No. 3 (June, 1962), pp. 161-164.

²⁹I. R. Andrews, "Wage Inequity and Job Performance: An Experimental Study," Journal of Applied Psychology, Vol. 51, No. 1 (February, 1967), pp. 39-45.

studies hypothesized that an individual will be motivated on a job to the extent that his performance serves to reduce feeling of inequity.

An alternative interpretation of cognitive dissonance is the introduction of self-concept or self-perception. For example, Vroom (1964) emphasized the effective consequences of the degree of consistency between a person's performance and his concept.³⁰ A person is hypothesized to be motivated to perform effectively when effective performance is consistent with his concept of his abilities and with the value he places on these abilities. Bem (1967) also stated that the major dependent variable in cognitive dissonance can be regarded as self-perception.³¹ Self-perception is only a special case of interpersonal perception. Thus, cognitive dissonance in this case is the discrepancy between what the individual believes about an entity and what he thinks other people think about the same entity. Cognitive dissonance is, thus, a product of

³⁰Victor A. Vroom, "Some Psychological Aspects of Organizational Control," in Cooper, Leavitt, and Shelly II, (eds.), New Perspectives in Organization Research (New York: John Wiley and Sons, 1964), pp. 81-82.

³¹Daryl J. Bem, "Self-Perception: An Alternative Interpretation of Cognitive Dissonance Phenomena," Psychological Review, Vol. 74, No. 3 (May, 1967), pp. 183-200.

self-perception in which if a person perceives he has an irrational belief in a real world, he will attempt to reduce the dissonance. But if he feels he has made a rational decision in an irrational world, dissonance reduction will not result.³²

Subjective Utility and Probability

An expectation is conceived of as a cognition about the consequences of an action, and can be expressed in terms of subjective probabilities. It takes values ranging from zero, indicating no subjective probability, to one, indicating certainty that the action will be followed by an outcome. The term utility is "a name for the concept of subjective value, which may be quite different from objective or dollar value."³³ The notion of utility is very similar to Tolman's concept of "demand for goal" and Lewin's concept of "valence," as discussed in a previous chapter.

In the past, classical economists proposed a theory of decision making based on the assumptions that man is

³²William A. Watts, "Commitment Under Conditions of Risk," Journal of Personality and Social Psychology, Vol. 3, No. 5 (May, 1966), pp. 507-515.

³³Ward Edwards, "Utility, Subjective Probability, Their Interaction, and Variance Preference," in Costello and Zalkind, op. cit., p. 391.

rational and he is well informed about the possible outcome of alternative action. The theory asserts that people choose among risky courses of action in such a way as to maximize their expected value.³⁴ In the real world, the specific outcomes that a person attains are not only based on fixed or certain results, but most likely on events that are not certain, or are beyond his prediction. In this circumstance, when objective values and objective probabilities of obtaining a goal cannot be defined, people choose among risky courses of action on the basis of subjective value and subjective probabilities. The maximization model of subjective expected utility SEU can be expressed by the formula:

$$SEU = \sum p_i u_i, \text{ where } p \text{ is subjective probability and } u \text{ is subjective utility.}^{35}$$

Krause (1966) also states that the expected value of a course of action is the algebraic sum of the expected values of the component events of that action.³⁶ Thus, a person's motivation to pursue a given course of action is a positive

³⁴E. L. Von Neumann and O. Morgenstein, Theory of Games and Economic Behavior (Princeton: Princeton University Press, 1944).

³⁵Edwards, op. cit., pp. 391-392.

³⁶Morton S. Krause, "A Cognitive Theory of Motivation for Treatment," Journal of General Psychology, Vol. 75, First Half (July, 1966), pp. 9-19.

linear function of its expected value for him, and his choice among several courses of action tends toward the one having the greatest expected value.

One important proposition of the subjectively expected utility theory is that the subjective utilities are ordinarily assumed to be inverse functions of the subjective probabilities, because people underestimate the outcomes which they can easily attain:³⁷ $u = 1 - p$, where u is utility and p is subjective probability. In other words, an outcome which has a low probability will, by virtue of that low probability, have a higher utility than the same outcome would have if it had a high probability.

There are, however, some contradictory views about the above proposition. Some writers have proposed that utility is determined both by objective probability and by objective value, and that subjective probability is also determined by objective probability and by objective value.³⁸ Several experiments have shown that people

³⁷ Apparently, most expectancy-value theorists of motivation, including Lewin, McClelland, Atkinson, Litwin, accept this proposition.

³⁸ See Edwards, op. cit., pp. 392-394.

consider an event more likely to occur if its consequences are favorable than if its consequences are unfavorable.³⁹

In another experiment, subjects were given choices between pairs of options having equal expected values but different probabilities of winning. When the bets had positive expected value, there was a peak of preference at the 50-50 chance bet where probability of winning is 50. But when the expected value of the bets was negative, the subjects preferred a low probability of losing in order to avoid relatively high probability of losing.⁴⁰

The experiment indicated that most people remained very objective when choosing among negative expected value bets, but were over-optimistic when choosing among positive expected value bets. In a similar study, persons who were high in achievement preferred the highest probability of winning when the expected monetary values of the options

³⁹F. W. Irwin, "Stated Expectations as Functions of Probability and Desirability of Outcomes," Journal of Personality, Vol. 21, No. 3 (March, 1953), pp. 329-335; V. J. Carndall, D. Solomon, and R. Kellaway, "Expectancy Statements and Decision Time As Functions of Objective Probabilities and Reinforcement Values," Journal of Personality, Vol. 24, No. 2 (December, 1955), pp. 192-203.

⁴⁰Ward Edwards, "Probability-Preferences in Gambling," American Journal of Psychology, Vol. 66, No. 3 (July, 1953), pp. 349-364.

presented to them were equal.⁴¹ Although the utility of the game was the same for all values of probability, the attractiveness of the game was stronger when the probability of success was higher.

If these studies are valid, the utility is not necessarily an inversely related function of subjective probability; it can be an independent function of subjective probability. However, as the inverse relationship holds true in some other circumstances, it may be reasonably concluded that in most situations utility (or incentive value) is probably independent of subjective probability (or expectancy), but in an achievement situation where performance is evaluated against standards of excellence, utility has an inverse relationship to subjective probability.⁴²

Level of Aspiration

The level of aspiration refers to the goal-striving behavior of a person when he is presented with a task whose

⁴¹J. W. Atkinson, J. R. Bastian, R. W. Earl, and G. H. Litwin, "The Achievement Motive, Goal Getting, and Probability Preferences," Journal of Abnormal and Social Psychology, Vol. 60, No. 1 (January, 1960), pp. 27-36.

⁴²N. T. Feather, "Mowrer's Revised Two Factor Theory and The Motive-Expectancy-Value Model," Psychological Review, Vol. 7, No. 6 (November, 1963), pp. 500-515.

outcome can be measured in terms of excellence. The level of aspiration is the reference point or an operational goal for which a person strives. Thus, the person sees any actual performance which exceeds the level of aspiration as success and any performance which falls short of the level of aspiration as failure. The concept of level of aspiration was introduced by Dembo (1931) in reference to the degree of difficulty of the goal toward which a person is striving.⁴³ The feelings of success and failure of the past experiences influence a level of aspiration for the subsequent task. The new level of aspiration is the criterion of measuring the feelings of success and failure for the new task.

A more elaborated theoretical concept of level of aspiration was presented by Lewin, Dembo, Festinger, and Sears (1944). They asserted that in predicting the choices an individual has in a goal-striving situation, the level of aspiration set by the individual is a function of the factors: (a) "approaching to success," (b) "avoiding failure," and (c) "cognitive or perceptual factor of a

⁴³T. Dembo, "Der Anger Als Dynamisches Problem," Psychologische Forschung, 1931, 15, 1-44.

probability judgement."⁴⁴ According to them an individual's choices among alternatives involving certain outcomes are based on the value or valence of success to him and his subjective probabilities of outcomes. In setting the level of aspiration, the person is confronted with a number of different levels of difficulty of tasks which give him the basis for his subjective probabilities.

Festinger (1942) proposed a theoretical explanation in determining the level of aspiration. To quote Festinger:

We have distinguished four factors which influence the choice of a goal: the positive valence of success (Vas), the potency of success (Pos), and the potency of failure (Pof). The choice of goal region (L), that is to say, the level of aspiration, will be determined by the resultant force toward L, the strength of which depends upon these four factors. This resultant force f^* for a given level of difficulty may be determined by the equality: (1) $f^* p, L = Pos, L (Vas, L) - Pof, L (Vaf, L)$. That region (L) toward which f^* is greatest will be chosen as the goal region; (2) Level of aspiration = L at which $f^* p, L = \text{maximum}$.⁴⁵

Festinger defined the potency of failure (Pof) as an inverse function of the potency of success (Pos), or $Pof = 1 - Pos$.⁴⁶

⁴⁴K. Lewin, T. Dembo, L. Festinger, and P.S. Sears, "Level of Aspiration," in J. McV. Hunt, (ed.), Personality and the Behavioral Disorders (New York: The Ronald Press, 1944), pp. 333-378.

⁴⁵Leon Festinger, "A Theoretical Interpretation of Shifts in Level of Aspiration," Psychological Review, Vol. 49, No. 2 (March, 1942), p. 239.

⁴⁶Ibid., pp. 239-240; potency is determined by the subject feeling of success that is expected to follow by an action.

The strength of the resultant force is greater for tasks of immediate difficulty, that is, the task offering intermediate probability of success, or 50, because at that point the term $Pos (Vas, L)$ is larger and $Pof, L (Vas, L)$ is smaller, leaving the resultant force at a high point as illustrated in the following Table 1.

Table 1
MOTIVATING FORCES WITH DIFFERENT
DIFFICULTIES OF TASK

Task	Pos	Vas	Pos Vas	Pof	Vaf	Pof Vaf	f*p,L
A	.90	.10	.09	.10	-.90	-.09	.18
B	.70	.30	.21	.30	-.70	.21	.41
C	.50	.50	.25	.50	-.50	-.25	.50
D	.30	.70	.21	.70	-.30	-.21	.41
E	.10	.90	.09	.90	-.10	-.09	.18

Table 1 illustrates that the attractiveness of a task, or valence of a task, is greater when a task appears more difficult to a person, and the strength of resultant force is greater for a task of intermediate difficulty. Several empirical studies support this hypothesis which became the basis of the achievement theory of motivation.

Atkinson (1958) found that the level of performance of female college students was significantly higher when the probability of winning a small monetary prize by

getting a high score was half ($1/2$) than when the expectancy of winning was either very high ($3/4$) or very low ($1/20$).⁴⁷ McClelland (1958) also found that children in kindergarten and second grade who were judged to be more highly motivated to achieve on a graphic expression measure of n Achievement preferred an intermediate degree of risk than children presumed to be low in n Achievement. The latter group more often than the former group preferred to do the tasks which were either very easy or very speculative.⁴⁸ The major findings of Mahone (1960) and Atkinson and O'Connor (1963) confirmed the aforementioned studies.⁴⁹ Atkinson and Feather (1966) and Morris (1967) also reported

⁴⁷John W. Atkinson, "Towards Experimental Analysis of Human Motivation in Terms of Motives, Expectancies, and Incentives," in J. W. Atkinson (ed.), Motives in Fantasy, Action, and Society (Princeton, N.J.: Van Nostrand, 1959), pp. 288-305.

⁴⁸David C. McClelland, "Risk-Taking in Children With High and Low Need for Achievement," in J.W. Atkinson (ed.), Ibid., pp. 306-321.

⁴⁹C. H. Mahone, "Fear of Failure and Unrealistic Vocational Aspiration," Journal of Abnormal and Social Psychology, Vol. 60, No. 4 (July, 1960), pp. 253-261; John W. Atkinson, "Effects of Ability Grouping in Schools Related to Individual Difference in Achievement-Related Motivation," reported in Atkinson, Introduction to Motivation (Princeton, N.J.: D. Van Nostrand, 1964), pp. 251-252.

that persons who are high in achievement-related motivation chose as if they were avoiding an intermediate degree of risk.⁵⁰

Changes in Level of Aspiration

Past experiences of success or failure have some degree of influence in setting the level of expectation or aspiration in the goal attainment in the subsequent trials. Usually, there is a general tendency for the level of expectation to be raised following success and lowered following failure.⁵¹ This relationship can be explained by assuming that the effect of attaining a goal is to strengthen the expectancy of attaining the goal on a subsequent occasion and that failure weakens the expectancy of the same and similar activities. But an expectancy is basically a complementary nature of historical and non-historical aspects, for the past events or experiences

⁵⁰J. W. Atkinson and N. T. Feather, A Theory of Achievement Motivation (New York: Wiley and Sons, 1966); John L. Morris, "Propensity for Risk Taking As Determinant of Vocational Choice: An Extension The Theory of Achievement Motivation," Journal of Personality and Social Psychology, Vol. 3, No. 3 (March, 1967), pp. 328-335.

⁵¹John W. Atkinson, "Some General Implications of Conceptual Developments in the Study of Achievement-Oriented Behavior," in M. R. Jones, ed., Human Motivation (Lincoln: University of Nebraska Press, 1965), p. 16.

influence the present behavior only to the extent that they affect the conditions which exist in the present. When the outcomes of past performance are not regular and high in variation, a person does not depend upon his past experiences in setting his level of aspiration.

Feather (1967) reported that when changes in performance or outcome are regular and low in variation, the level of aspiration is closely determined by performance in the past and the situation becomes one that mainly involves cognitive judgement. When performance levels fluctuate markedly from one trial to another, the situation becomes more ambiguous, and aspiration is not related to past experiences but to personality variables.⁵² For example, probability estimates or expectations in setting a level of aspiration change more after failure than after success. But success-oriented subjects make more typical and regular changes in probability estimations than avoidance-oriented subjects.⁵³

⁵²N. T. Feather, "Level of Aspiration and Performance Variability," Journal of Personality and Social Psychology, Vol. 6, No. 1 (May, 1967), pp. 37-46.

⁵³N. T. Feather, "Effect of Prior Success and Failure on Expectations of Success and Success and Subsequent Performance," Journal of Personality and Social Psychology, Vol. 3, No. 3 (March, 1966), pp. 287-298; Robert W. Moulton, "Effects of Success and Failure on Level of Aspiration as Related to Achievement Motives," Journal of Personality and Social Psychology, Vol. 2, No. 5 (May, 1965), pp. 399-406.

In essence, the primary function of perception is to determine an operational goal for which an individual actually and realistically strives. Setting a goal serves as a motivating force, for man is basically a goal-seeking animal. In setting a goal, man interprets and gives meanings to the stimuli he has received through his organs and determines an operational goal consistent with his perception of reality. Perceiving, therefore, is not a passive imprinting of a world picture, but an active force for safeguarding the self within a given environment.

Methods of Influencing Perception

One of the problems in motivation as it relates to management is to influence or change the behavior of employees toward a certain desired direction. The change of human behavior can be brought about not only by the changes of his need structure and the use of incentives, but also by the change of his perceptual pattern.

Patterson (1964) advocated that the change of perception is the key of motivation. To quote Patterson:

The goal is always conceived in terms of the individual's perception of himself and his environment. The counselor (or manager), then, is one who is skilled in understanding human beings and their perceptions and who provides the conditions under

which change in perceptions, and then self-initiated behavior change, can occur.⁵⁴

Barnard (1938) also suggested persuasion as a means of changing perceptions. In particular, when the organization is unable to offer objective incentives, the only alternative available is to change the state of mind or attitudes by persuasion. As the method of persuasion he recommended three types of subjective incentives: (1) negative persuasion by coercions, (2) rationalization by propaganda and appeal, and (3) inculcation of motives by religious and political instructions.⁵⁵ Barnard's suggestions are rather limited to an unusual situation where objective incentives are not available. In this sense, the methods may not be applicable in modern industrial situations where employees contribute to the organization as a means of obtaining the objective incentives.

Perceptual patterns of employees can be improved by effective supervision, favorable management assumptions and philosophy, effective communication, and an effective

⁵⁴C. H. Patterson, "A Unitary Theory of Motivation and Its Counseling Implications," Individual Psychology, Vol. 20, No. 1 (May, 1964), p. 30.

⁵⁵Chester I. Barnard, Functions of Executives (Cambridge: Harvard University Press, 1938), pp. 141-149.

reward system. First, supportive supervision improves the perception of organizational stimuli and increases the subjective probability of employees in attaining the organizational incentives.⁵⁶ Second, favorable management assumptions, such as Theory Y, encourage employees to perceive the organizational stimuli as the instruments of achieving their goals so that they can be more involved in their jobs. By assuming that employees are dependable and capable of self-control and assuming responsibility, management assumptions become "real in their consequences."⁵⁷ Third, effective communication helps employees to perceive the meanings of the organizational stimuli as management originally intended. Effective communication skills also reduce incongruency between individual needs and organizational demands. Finally, an effective reward system helps employees to perceive the incentive system as fair and equitable, so that employees justify the additional rewards for their additional efforts.

⁵⁶Mosel, op. cit., p. 14.

⁵⁷Merton, op. cit., p. 421.

Summary and Conclusion

Inclusion of perceptual variables in a general theory of motivation is very significant, for any exclusion of the variables in a motivational study cannot explain motivated behavior which is influenced by such perceptual mechanisms as subjective value of attaining the goal and subjective probability that the goal will be attained. The self-concept is the center of perceptual mechanisms through which a person sees the meanings of stimuli. However, any attempt to explain motivational phenomena in terms of the self-concept alone seems to commit the same error that other unitary theories, such as the need theory and the incentive theory of motivation, have made. Although an expectation about the consequences of behavior in a given situation determines the actual level of motivation, the existence of needs and incentives is also a main source of activation of an organism. Perceptual variables mainly serve as intervening variables between needs and incentives, regulating and directing the organism in a certain direction.

In addition to this regulating function, a perceptual variable acts as an energizing force. Goal setting serves as a motivating force and cognitive dissonance serves as a motivating variable. In essence, perception is one of the

major variables in motivation that must be included within the framework of a general theory of motivation.

CHAPTER VI

DEVELOPING A COMPREHENSIVE MODEL OF
MOTIVATION AND PERFORMANCE

Motivational theories, as discussed in the previous chapters, represent a constant search for the determinants of human motivation and their relationships as they relate to job performance. The role of motivational variables in determining an employee's level of performance has been of particular interest to industrial psychologists and managerial practitioners. Accordingly, a substantial amount of research has been concerned with investigating the major determinants of motivation and with finding ways to raise the level of performance of employees. Many psychologists and management scholars have long recognized the importance of such motivational variables as needs, incentives and perception in motivated behavior, but few have attempted to investigate the simultaneous interaction of these major variables. As a result, much is known about partial theories, but there is a lack of information

concerning the simultaneous interactions of the variables which are the core elements of motivated behavior.

The primary purpose of this study, therefore, was to introduce a way to integrate the various determinants of motivation into a comprehensive model. As the major concern of management is to find motivational variables that lead to a high level of employee performance, the study also attempted to relate the comprehensive motivational model to the study of job performance.

The integrated performance model is called a comprehensive model of motivation and performance. The comprehensive model of motivation and performance was structured on a three stage model, because the model building process provides a better means of systematizing and classifying the complex variables of motivation and performance. The first stage model involved ability and motivation as major determinants of job performance. The second stage model specified the major variables of motivation (e.g., needs, incentives, and expectancies). Finally, the third stage model was primarily concerned with motivational factors that constitute each major variable of motivation. Figure 6 depicts the basic relationship of the three stages of the comprehensive model.

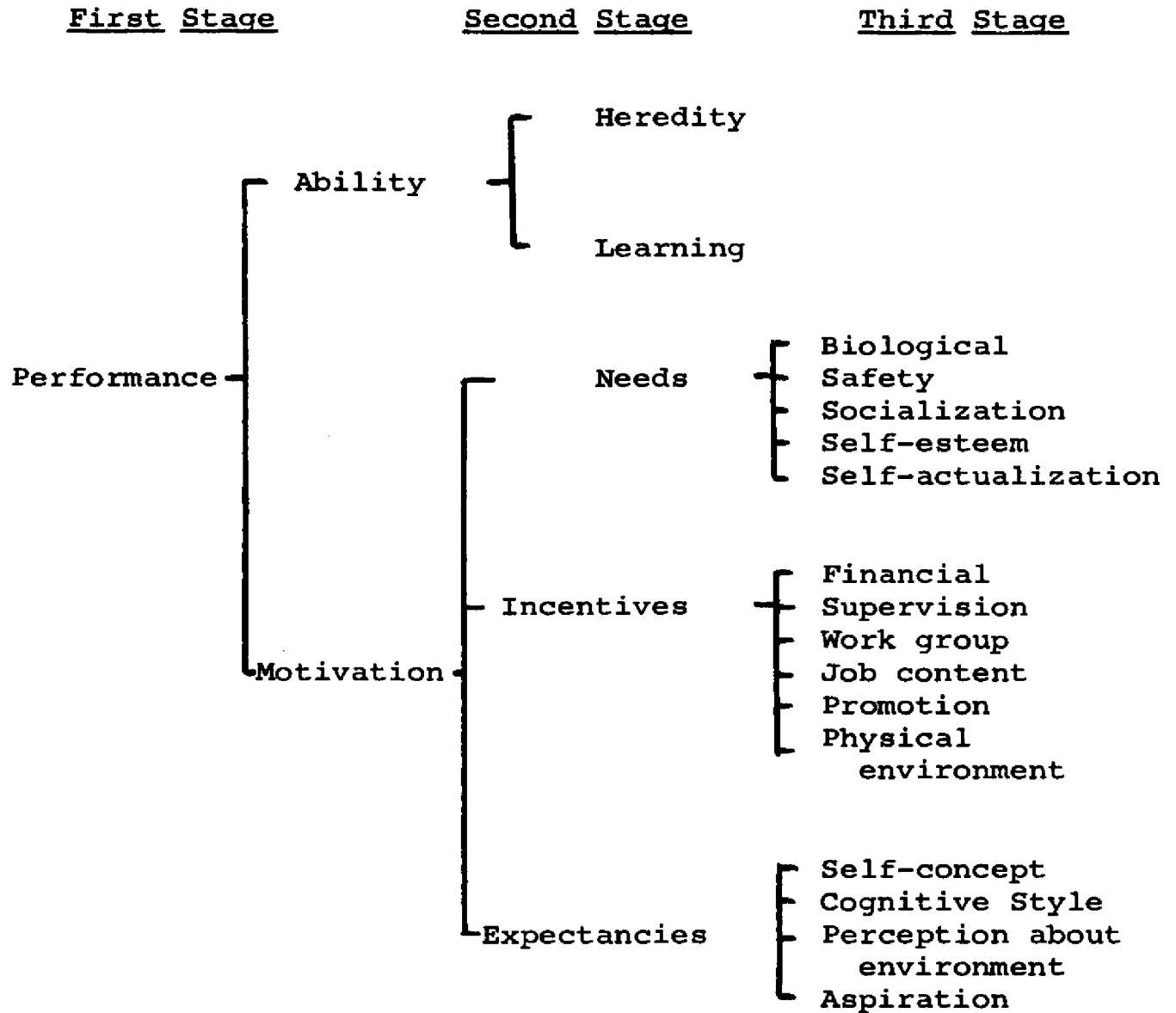


Figure 6

Three Stage Analysis of
Performance Model

In the development of the comprehensive model of motivation and performance, the motivational factors of partial theories were incorporated into the comprehensive model of motivation which in turn was integrated into the comprehensive model of performance. The integrated comprehensive model of motivation and performance specified the functional relationships between major variables and between subvariables. Various determinants of motivation were derived from the partial theories of motivation. In this respect, the development of a comprehensive model depended upon the development of the partial theories. On the other hand, the partial theories, in this context, became more meaningful when the effects and contributions of motivational factors in each partial theory were evaluated within the framework of the comprehensive model.

The development of three stage models in this chapter served the following purposes: (1) A means of representing the phenomena of human motivation, and of introducing a new way of analyzing the understanding them; (2) an analytic tool to separate the various meanings and functions of each variable and factor into discrete categories; (3) a rule of inference by which a comprehensive theoretical framework can be expanded; and (4) a general theory of

motivation and performance. The models have the qualifications of theory because they are composed of a set of interrelated concepts specifying the relationship between variables for the purpose of analysis and explanation of motivation and performance.¹

First Stage Model: Ability and Motivation

Every individual in our society has a goal or a set of goals which he strives to achieve. The goals, in many instances, are so remote that they can only be achieved by a series of steps which become intermediate goals to be accomplished en route to the final goals.²

The extent to which an individual accomplishes the series of goals is determined in terms of standards of performance which depend upon his ability and motivation relative to goal attainment. The term "ability" usually denotes a potential for performing some task. Thus, it only determines what a person can do, not what he actually does.

An individual's ability to perform a task is dependent upon the degree to which he possesses all of the

¹Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, 1966), p. 11.

²Herbert G. Hicks, The Management of Organizations (New York: McGraw-Hill Book Company, 1967), p. 244.

physical, mental, and psychological attributes, excluding those of motivational nature, which are necessary for performing the task. The role of motivation, on the other hand, is to bring ability into actual performance.

Theoretical Background of the Performance Model

Traditionally, the study of job performance has been based on two somewhat independent assumptions: First, performance can be understood in terms of the individual's ability to perform the task; second, performance depends solely upon the level of motivation.³ There were, however, some scholars who recognized the significance of the interaction between two variables in determining the level of performance. Viteles (1953) distinguished between the "capacity to work" and "the will to work" and proposed that both determine the level of performance.⁴ Maier (1955, 1965) hypothesized that performance (P) is a function of ability (A) and motivation (M): $P = f(A \times M)$.⁵ According to this formula, if either ability or motivation is absent,

³Victor H. Vroom, Work and Motivation (New York: John Wiley and Sons, 1964), pp. 197-198.

⁴Morris S. Viteles, Motivation and Morale in Industry (New York: W. W. Norton and Company, 1953), pp. 3-6.

⁵N. R. F. Maier, Psychology in Industry (3rd Ed.), (Boston: Houghton-Mifflin, 1965), p. 229.

performance has a value of zero and increases as either factor rises in value. In other words, when ability has a low value, increments in motivation will result in smaller increases in performance than when ability has a high value. Furthermore, when motivation has a lower value, increments in ability will result in smaller increases in performance, than when motivation has a high value. Thus, it is suggested that the effects of these two variables on performance are multiplicative rather than additive.

Investigating the relationship between two variables independently and jointly, Megginson (1967) drew the following hypotheses: First, if productivity were only a function of ability, performance would increase directly and proportionately with the increase of ability. However, because of the element of human volition in a work situation, motivation plays a significant role in determining the level of performance of an employee. Thus, he stated the second hypothesis: A strong positive motivation enhances an employee's productivity at an increasing rate, while weak or negative motivation lowers the employee's level of performance at his given level of performance.⁶ As

⁶Leon C. Megginson, Personnel (Homewood, Ill.: Richard D. Irwin, 1967), pp. 538-539.

shown in Figure 7, the performance curve is related to the type of motivation. It can be seen that where there is a strong positive motivation, the employee's performance is enhanced at an increasing rate. Where there is a negative motivation, the person's output will decline, regardless of his ability.

Empirical Studies for the Performance Model

Several studies of this problem partly supported Maier's model of performance. For example, Atkinson (1956) found that the performance level of persons who were high in "n Achievement" was significantly higher than it was in persons low in "n Achievement." This difference between high and low motivation groups was greater for persons having low scores on a Quantitative Aptitude Test than for persons with high scores. Persons who were low in aptitude but could still show high level of performance profited most by strong motivation.⁷ Although this study did not significantly support the hypothesis, it suggested, nevertheless, that there were some interactions between ability

⁷J. W. Atkinson and W. R. Reitman, "Performance as a Function of Motive Strength and Expectancy of Goal Attainment," Journal of Abnormal Social Psychology, Vol. 53, No. 3 (November 1956), pp. 361-366.

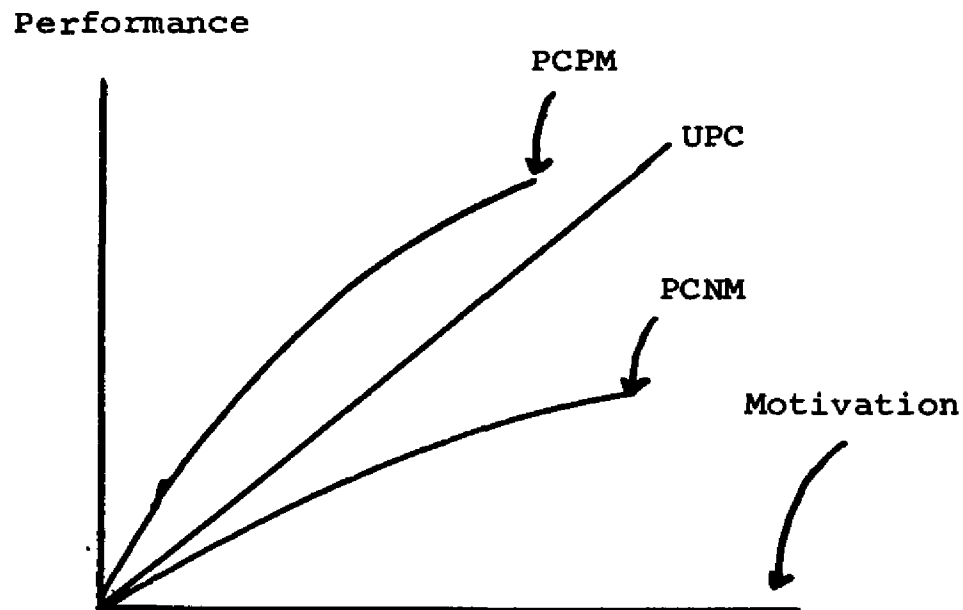


Figure 7

Motivation and Performance

- PCPM: Performance curve with positive motivation.
PCNM: Performance curve with negative motivation.
UPC: Unitary performance curve which is expected to increase with a given increase of ability.

and motivation, rather than an additive or independent relationship between the variables.

French (1957) studied the joint effects of intelligence and achievement motivation on the problem-solving success of airmen. She found that intelligence level was related to problem-solving success among subjects with high achievement motivation but not among subjects with low achievement motivation.⁸

Fleishman (1958) also found results similar to those of French when he experimentally manipulated the motivation of Air Force enlisted men in learning a perceptual motor skill. The results showed that the performance level between two groups of subjects (one group was manipulated while the other was controlled) was significantly greater for subjects high in ability than for those low in ability. As with the findings of French, the difference in performance of high and low ability subjects was greater under the high motivation condition than under the low.⁹

⁸Elizabeth G. French, "Effects of Interaction of Achievement Motivation, and Intelligence on Problem Solving Success," American Psychologist, Vol. 12, No. 7 (July, 1957), pp. 399-400 (Abstract).

⁹E. A. Fleishman, "A Relationship Between Incentive Motivation and Ability Level in Psychomotor Performance," Journal of Experimental Psychology, Vol. 56, No. 1 (July, 1958), pp. 78-81.

Vroom (1960) studied the relationships between scores on four tests of ability and scores on four measures of job performance for supervisors who were classified as high, moderate, and low in motivation. He found fairly high positive correlations between the ability and performance of supervisors high in motivation, generally low positive correlations for those moderate in motivation, and zero or slightly negative correlations for those low in motivation.¹⁰

Lawler (1966, 1967) also supported the hypothesis. In his study of civil service personnel he found that when high ability managers were viewed, a clear relationship between attitudes and performance appeared; however, when low ability individuals were considered, a similar relationship did not exist. His conclusion was that correlation coefficients between contingency attitudes and job performance in the study were not high and the use of ability as a moderator significantly increased the relationship between attitudes and performance.¹¹

¹⁰Victor H. Vroom, Some Personality Determinants of the Effects of Participation (Englewood Cliffs, N.J.: Prentice-Hall, 1960), pp. 50-59.

¹¹Edward E. Lawler, III, "Ability As A Moderator of the Relationship Between Job Attitudes and Job Performance," Personnel Psychology, Vol. 19, No. 2 (Summer, 1966), pp. 153-164; and see also Edward E. Lawler, III, "Attitude Surveys and Job Performance," Personnel Administration, Vol. 30, No. 5 (September-October, 1967), pp. 3-5, 22-24.

Evaluation of the Studies of Performance

All these studies in some way support the hypothesis that the level of performance is a multiplicative function of the levels of ability and performance. Although the first stage performance model of this study basically followed Maier's hypothesis, the following qualifications were considered and added for further development of the model. First, previous studies did not differentiate the degree of contribution of each variable on the level of performance. Second, studies did not specify which subvariables should be included under ability and under motivation. In order to improve the qualifications, the present study attempted to specify the functional relationships between those two major variables, and to specify the subvariables.

Second Stage Model: A Comprehensive Model of Motivation

The purpose of this section is to specify which determinants of performance are included under ability and which under motivation, especially emphasizing the three major variables of motivation, e.g., needs, incentives, and perception. The level of ability of a person

at a given time depends upon both his heredity and environment.¹² Although an extensive discussion of this subject is beyond the scope of this study, it is worthwhile to explain the attributes and the relationships between these two subvariables. Heredity essentially determines an individual's maximum capacity for the development of his ability while environment significantly affects the level to which he has grown and will continue to grow toward his total capacity. Consequently, one's inherent abilities are determined by his heredity, but the actual level of his ability development is determined by the interaction between his learning process and his environment.¹³ The level of ability changes as the individual learns more from his environment. But it is assumed in this study that a person's level of ability remains constant in a short time period.

Theoretical Background of the Motivation Model

When the level of ability is considered as a given parameter, the performance level of an individual can be reasonably hypothesized as a function of motivation. One

¹²John McLeish, The Science of Behavior (London: Pemberton Publishing Company, 1963), pp. 47-62.

¹³Megginson, op. cit., p. 308.

of the major purposes of the discussions of partial theories in the previous chapters was to find the major variables and their subvariables of motivation. Discussions in previous chapters indicated that motivation is a function of needs, incentives, and expectancies. Studies of motivation in this framework stemmed from the guiding principle of behavior (B) advanced by Lewin, $B = f(P, E)$, where P stands for the person and E for his environment.¹⁴ The person variable (P) can be divided into two categories; a set of the person's needs and his particular set of perceptual responses. The environment variable (E) can be interpreted as a set of incentives which stimulate the person in certain directions.

Along with this concept of behavior, McClelland and his associates (1953) made intensive studies of one particular kind of need, "the need to achieve," because this need seemed to influence significantly the success and failure situations in real life.¹⁵ They found that the frequency of imaginative responses concerning the

¹⁴Kurt Lewin, "Frontiers in Group Dynamics," in D. Cartwright, (Ed.), Field Theory in Social Science (New York: Harper, 1951), pp. 188-237.

¹⁵D. C. McClelland, J. W. Atkinson, R. A. Clark, and E. L. Lowell, The Achievement Motive (New York: Appleton-Century-Crofts, 1953), pp. 172-181.

achievement of a goal (B), which was called the Thematic Apperception Test (TAT) n Achievement score, is jointly determined by the strength of a relatively general and stable disposition of the person (P) and by more immediate and specific environmental influences such as greater rewards for accomplishment.¹⁶

Incorporated with Lewin's principle of behavior and Tolman's concepts of expectancy and purposive behavior, the theory of achievement motivation advanced to a well-established position in the field of motivational theory. Tolman (1923, 1932),¹⁷ unlike the S-R theorists, strengthened the concept of intervening variables, including expectancy and goal demand and paved the way for development of the perceptual and achievement theories of motivation. Atkinson and Reitman (1956), adapting Tolman's principle of performance, stated that "the goal-directed action tendency is a joint function of the strength of the motive and of the expectancy aroused by situation cues that performance is instrumental to attainment of the goal of the motive."¹⁸

¹⁶Ibid., p. 297.

¹⁷Edward C. Tolman, "A Behavioristic Account of the Emotions," Psychological Review, Vol. 30, No. 3 (May, 1923), pp. 217-227; E. C. Tolman, Purposive Behavior in Animal and Men (New York: Appleton-Century Co., 1932).

¹⁸Atkinson and Reitman, op. cit., p. 361.

As the conceptual problems focused on the studies of achievement and expectancy relevant to goal-directed behavior, Atkinson (1957, 1964) felt that another variable, the amount of incentive, should be taken into account. He hypothesized that human motivation, which is the target of goal-directed behavior, is a joint multiplicative function of motive, expectancy, and incentive: $\text{Motivation} = \text{Motive} \times \text{Expectancy} \times \text{Incentive}$ or $M = N \times P \times I$.¹⁹ (This formula was also proposed by Tolman (1955)²⁰ and Rotter (1954),²¹ but Atkinson and his associates were the most active research group in this area.)

The multiplicative relationship between these variables implies that a person's level of motivation is determined by the difference of motive strengths, the amount of incentives and the expectancy of attaining a goal. In Atkinson's theory of achievement motivation, the tendency to achieve success (T_s) is considered a multiplicative function of the motive

¹⁹J. W. Atkinson, "Motivational Determinants of Risk-Taking Behavior," Psychological Review, Vol. 64, No. 6 (November, 1957), pp. 359-372; John W. Atkinson, Introduction to Motivation (Princeton: D. Van Nostrand, 1964), pp. 242-245.

²⁰Edward C. Tolman, "Principles of Performance," Psychological Review, Vol. 62, No. 5 (September, 1955), pp. 315-326.

²¹J. B. Rotter, Social Learning and Clinical Psychology (New York: Prentice-Hall, 1954).

or need to achieve success (Ms), the strength of expectancy or the subjective probability of the goal attainment (Ps), and the incentive value of success (Is): $Ts = Ms \times Ps \times Is$.²² The first variable (Ms) is considered a relatively stable disposition of personality, but the other variables, (Ps) and (Is), depend upon the level of aspiration which is influenced by the individual's past experience. In the theory, the incentive value of success (Is) is an inverse function of the expectancy of success (Ps), or $Is = 1 - Ps$, because the more difficult a task appears to an individual, the greater the incentive value will be. The level of aspiration is set at some point of intermediate difficulty of the task, and tends to be raised following success and lowered following failure.²³

The tendency to avoid failure (Taf) is considered the function of the motive to avoid failure (Maf), the expectancy of failure or the subjective probability of failure (Pf) and the incentive value of failure (If). The

²²John W. Atkinson, "Some General Implications of Conceptual Developments in the Study of Achievement-Oriented Behavior," in M. R. Jones (ed.), Human Motivation: A Symposium (Lincoln, Neb.: University of Nebraska, 1965), pp. 3-29; J. W. Atkinson and N. T. Feather, A Theory of Achievement Motivation (New York: John Wiley and Sons, 1966).

²³Atkinson, Ibid., pp. 15-25.

incentive value of failure is negative, representing the repulsiveness of shame and humiliation normally produced by a display of incompetence when one fails to achieve a task. It is also assumed that the easier a task appears to an individual, the greater the negative incentive value of failure (I_f). Therefore, the relationship between I_f and P_s is assumed to be: $I_f = -P_s$.²⁴

The theory assumes that the tendency to achieve success and the tendency to avoid failure are always simultaneously aroused in achievement-related motivation. The tendency to avoid failure offsets the positive motivational forces, because the feelings of shame and humiliation accompanying the failure of the task prevents a person from taking any real action.²⁵ Therefore, the resultant tendency, obtained by subtracting the tendency to avoid from the tendency to achieve success, represents the potential strength of motivation. When the tendency to achieve success is dominant, the individual is attracted to achievement-oriented activities. However, when the tendency to avoid failure is dominant, the resultant force will be negative, suggesting the inhibition of all achievement-

²⁴Atkinson, Ibid., pp. 19-20.

²⁵Ibid., pp. 22-25.

oriented activities. This relationship between the tendency to achieve success (T_s) and the tendency to avoid failure (T_{af}) can be expressed as follows: $M = T_s - T_{af} = f(M_s \times P_s \times I_s) - f(M_{af} \times P_f \times I_f)$, where M stands for the resultant motivational force.

Empirical Studies for the Motivation Model

Some empirical studies have been related to the second stage motivation model: $M = f(N \times I \times P)$. Most researchers in this problem, however, were primarily concerned with the question of whether the incentive value of success (I_s) is an inverse function of success (P_s).²⁶ For example, Atkinson (1958), McClelland (1958), Atkinson and Litwin (1960), Mahone (1960), Atkinson and Feather (1966), and Morris (1967) reported that persons who were high in achievement motive chose a task with an intermediate degree of risk ($P_s = .50$) as if they were attempting to satisfy the conditions of maximizing the value of Atkinson's formula, e.g., $T_s = M_s \times P_s \times I_s$, or $T_s = M_s \times P_s \times (1 - P_s)$. Those who were low in achievement motive, on the other hand, tried to avoid a task with an intermediate degree of risk.

²⁶The studies quoted in this section were previously reviewed in the immediately preceding chapter.

Other studies have disagreed with the above view; for instance, Irwin (1953), Edwards (1953), Atkinson, Bastian, Earl, and Litwin (1960), and Feather (1963) argued that the incentive value of success is an independent function of the expectancy of success. According to them the incentive value of a task seemed to be determined by both subjective and objective values of the task.

A possible explanation for the discrepancy between those two groups of study is that the inverse relationship between the incentive value and the expectancy can be attributed to the fact that people experience anxiety in distressing achievement-oriented situations. The independent relationship, on the other hand, was attributed to less distressing goal-oriented situations.²⁷

The most recent study of this context was Indik's study (1966) on motivation to work. In adopting the theoretical structure of Atkinson's model, he attempted to measure the "motivation to work" of the subjects who were registered with the state employment services. The study indicated that the potential-to-work measure did

²⁷N. T. Feather, "Mower's Revised Two Factor Theory and The Motive-Expectancy-Value Model," Psychological Review, Vol. 7, No. 6 (November, 1963), pp. 500-515.

show statistically significant correlations with the variables which were related to the motivation to work.²⁸

Evaluation of the Motivational Studies

Although the previously mentioned studies of this problem contributed to the theoretical development of the second stage motivation model in this study, some points were not made in those studies. Thus, some qualifications associated with the limitations must be considered and included in the second stage model.

First, the multiplicative nature of the motivation model was never tested. It is quite possible that an additive model of motivation may be a better predictor of performance than the multiplicative one. To be a scientifically proven model, it must be tested and hence irreputable.

Second, Atkinson's theory of motivation is primarily concerned with one particular class of needs, the achievement need, and applies mostly in risk-taking situations. His motivation model does not specify which motivational factors should be included under needs (N), under

²⁸Bernard P. Indik, "Measuring Motivation to Work," Personnel Administration, Vol. 29, No. 6 (November-December, 1966), pp. 39-44.

incentives (I), and under expectancies (E). Consequently, it does not consider the effects of various motivational factors in determining the strengths of the major variables. By integrating the partial theory models, which are presented in the following section, into the second stage model of motivation, a comprehensive model of motivation was developed.

Third Stage Models: Partial Theories

The purpose of this section is to formulate the relationships among motivational factors in each major variable of the motivation theory. Relationships among motivational factors are very complex and multi-directional, for every individual need of a person pulls him in different directions with different strengths, and each external stimulus pulls him from different directions with different valences.

Theoretical Background of the Partial Models

As a means of determining the resultant force of the various needs of an individual which pull him in different directions with different strengths, Hicks (1967)

introduced a technique of vector analysis.²⁹ The resultant force can be found by connecting the vectors end to end in a sequence keeping the original lengths and directions. Although vector analysis of this type may more closely approximate the reality of motivational phenomena, it is at this point only a conceptual tool, for the lengths and directions of the vectors cannot be identified.

To make the conceptual scheme operationally workable, however, it is suggested that the system be operated on a unidimensional basis as an approximation. For instance, as illustrated in Figure 8, a student's dominant need may be to study, but he may also have other needs which are totally opposing (socialization), partially opposing (money), neutral (self-respect), and partially identical (self actualization).

When these needs are operated on a five-point scale, the resultant force of the various needs is found by subtracting the sum of the strengths of the opposing needs (or -4) from the sum of the strengths of the positive needs (or +7). This leaves three points of need to study.

²⁹Herbert G. Hicks, The Management of Organizations (New York: McGraw-Hill, 1967), pp. 40-43.

The resultant forces for incentives and expectancies can also be found in this fashion.

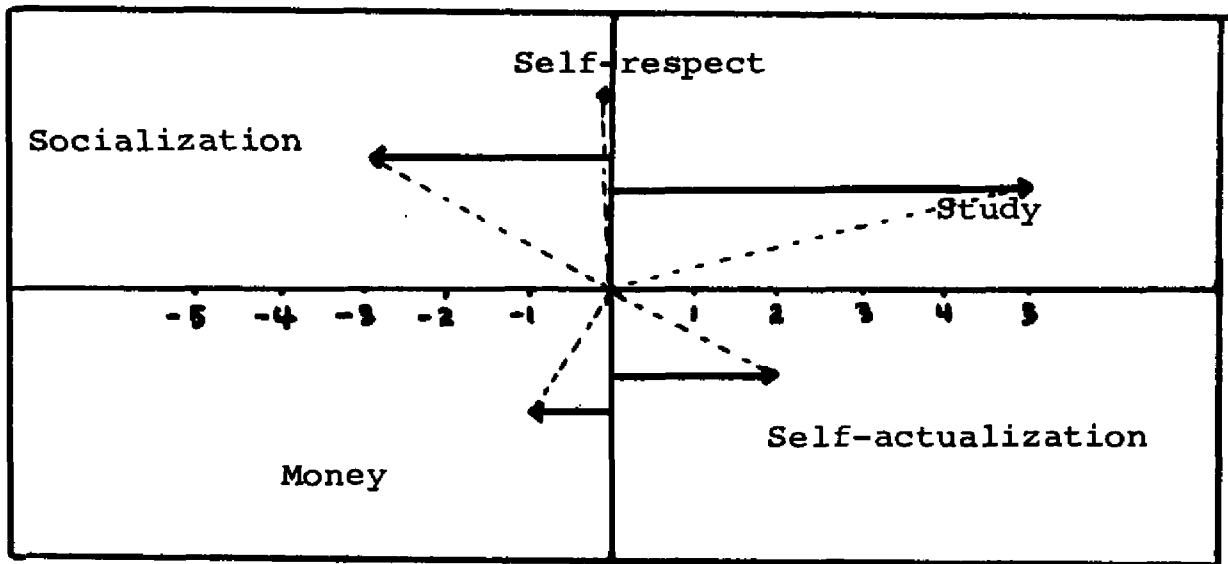


Figure 8

Student Needs on Unidimensional Scale

Model Building for Partial Theories

Because of the additive nature of motivational factors, their relationships can be reduced into more formalized statements.

Model for Motive. Following the classification of needs as listed in a previous chapter, the functional relationships among factors can be specified. The positive motive toward a goal (M_g) is an additive function of biological (N_b), safety (N_f), socialization (N_o), self-respect (N_r), and self-actualization (N_a), needs which

are positively identical with the goal: $M_g = f (N_b + N_f + N_o + N_r + N_a + \dots)$.

In an organizational setting, the relationship can be an additive function of achievement (Nac), competition (Nco), affiliation (Naf), security (Nse), money (Nmo), and power (Nop), needs: $M = f (Nac + Nco + Naf + Nse + Nmo + Npo + \dots)$. In general, it can be written as an additive function of many positive needs toward a goal: $M_g = f$

$$(N_1 + N_2 + N_3 + \dots + N_n) = \sum_i^n f (N_i).$$

The negative motive to offset the positive motive (Mag) is an additive function of various needs which are negatively related with the goal. This can be written as follows: $Mag = - f (Na_1 + Na_2 + Na_3 + \dots + Na_m) =$

$$- \sum_k^m f (Nak).$$

Model for Incentive. There are two kinds of incentives which can be used as stimulants to productivity, tangible and intangible. Tangible incentives include wages and salaries (Im), fringe benefits (b), physical working environment (Iw), and the job itself (Ij). Intangible incentives include such factors as supervision (Iu), social environment (Io), company policy (Ic), and promotional

opportunities (I_p). The strength of incentives which contribute toward a goal (I_g) is an additive function of tangible and intangible incentives: $I_g = f (I_m + I_b + I_w + I_j + I_u + I_o + I_c + I_p + \dots)$. In general, it can be an additive function of many incentives: $I_g = f (I_1 + I_2 + I_3 + \dots + I_n) = \sum_i^n f (I_i)$.

The incentive force that offsets positive incentives to a goal (I_{ag}) is an additive function of tangible and intangible incentives that are negatively related with the goal. In general, it can be written as follows: $I_{ag} = -f (I_{a_1} + I_{a_2} + I_{a_3} + \dots + I_{a_m}) = - \sum_k^m f (I_{a_k})$.

Model for Expectancy. The factors that influence the level of motivation were also presented in a previous chapter. A person's cognitive style (E_c), perception about himself (E_h) and about the immediate environment around him (E_e), and past experience (E_p) determine the level of aspiration concerning a goal attainment. Thus the strength of perception (E_g) is assumed to be an additive function of those factors: $E_g = f (E_c + E_h + E_e + E_p + \dots)$. In general, the formula can be expressed as: $E_g = f (E_1 + E_2 + E_3 + \dots + E_n) = \sum_i^n f (E_i)$.

The negative expectancy (E_{ag}) which offsets the positive strength is an additive function of the perceptual factors that have negative influence on the goal setting. In general, the relationships of these factors with the perceptual function can be expressed by the formula:

$$E_{ag} = -f (Ea_1 + Ea_2 + Ea_3 + \dots + Eam) = - \sum_k^m f (Eak) .$$

A Comprehensive Model of Motivation and Performance

As the major concern of the present is to construct a comprehensive model of motivation and performance, this section is devoted to the discussion of its development. Before the comprehensive model was constructed, some of the existing performance models were reviewed.

Existing Comprehensive Models of Performance

Parsons (1937) developed a general theory of action which was designed to explain human action directed toward an end (E) within a given situation (S).³¹ The general theory was expressed by the formula: $A = S (T, t, ie, r) + E (T, t, i, ie, r) + N (T, t, ie, i, r)$, where A = a unit

³¹Talcott Parsons, The Structure of Social Action (New York: Free Press of Glencoe, 1937), pp. 78-82.

action, S = a situation, E = an end, N = a selected standard relating to E and S, T = scientifically valid knowledge, t = unscientific elements, i = normative or ideal elements, ie = symbolic expressions of i, and r = elements varying at random relative to those formulated as T and t. Parsons' general theory provides a conceptual scheme for analyzing human actions, which are goal directed, in a given environment.

Lewin (1951), as pointed out in a previous section, also formulated a guiding principle of human behavior (B), e.g., $B = f(P, E)$, where P stands for the person and E for his environment.³² This formula forces consideration of the effects of personal and environmental variables on human behavior.

Maier's performance model (1955, 1965), as discussed earlier in this chapter, was the advanced model of performance which included ability and motivation as its major variable.³³ This performance model, with some modification, became a major hypothesis of the present study.

McGregor, in his study published in 1966, also attempted to develop a comprehensive model of performance.

³²Lewin, loc. cit.

³³Maier, loc. cit.

He considered the performance of an individual as a function of his personal attributes (Ia, b, c, d, ----) and various influential factors in his environment (Em, n, o, p, ----).³⁴ Thus, his model was expressed by the formula: $P = f(Ia, b, c, d, ---, Em, n, o, p, ---)$.

Evaluation of the Performance Models

The aforementioned models of performance provide valuable conceptual tools for analyzing job performance of individuals. These models are incomplete, however, and there are still further qualifications that must be added to make the performance model more comprehensive.

First, Lewin and Maier did not specify the subvariables which must be included in each major variable of their models. In this study, the subvariables were specified by integrating various models in the three stage analysis.

Second, Parsons and McGregor did not specify the functional relationships among various variables. To make the performance a predictive model and advance it to the position of theory, it was necessary to formulate the functional relationships among the variables.

³⁴Douglas McGregor, Leadership and Motivation (Cambridge: The M.I.T. Press, 1966), p. 201.

A Predictive Model of Performance

As previous studies of performance did not specify either the subvariables or the functional relationships, an attempt to correct the limitations was made in the present study. In this effort, the partial theory models were integrated into the second stage model of motivation. In turn, the motivational variables of the second stage model were combined with the ability variable to develop a comprehensive model of performance. The integrated model of motivation and performance is expressed by the formula: $P = f (A \times N \times I \times E)$.

In the process of developing this model, the partial theory models specified the functional relationships of the motivational factors which could be combined in the second stage motivation model. Thus, the integrated model can be also expressed, with more inclusive terms, as follows: $P = f \left[A \times \sum (N_i \times I_i \times E_i) \right]$.

In an effort to distinguish the contribution of each variable on the level of job performance, a weighting factor was assigned to each major variable of the formula: $P = a A^{b1} N^{b2} I^{b3} E^{b4}$, where (a) stands for the constant of the formula and $b1, \dots, b4$ represent the coefficients of power of the major variables, respectively. This equation

generally represents the comprehensive predictive model of performance in the present study.

Summary and Conclusion

Industrial psychologists and management practitioners have long been interested in searching for factors which influence motivation and productivity. The purpose of this chapter was to develop a systematic and comprehensive scheme of analyzing the complexity of human motivation. Partial theories of motivation were integrated into one comprehensive model of motivation and this general model was incorporated with such nonmotivational determinants as heredity and accumulated knowledge in determining the level of performance. All determinants of performance were taken into consideration in this comprehensive scheme without limiting the motivation study to a limited number of motivational variables, assuming other variables are constant. This was accomplished by classifying the variables into internally homogeneous but externally heterogeneous groups, and by systematizing the analysis step by step. By doing so the interrelationships between different types of variables and between the stages of analysis became evident.

CHAPTER VII

SOME EMPIRICAL DATA FROM A STUDY OF THE COMPREHENSIVE MODEL

The primary purpose of the present empirical study was to test the practical applicability of the comprehensive model of motivation and performance, which was developed in the previous chapter. In that chapter, the strength of motivation (M) of a person was hypothesized as a multiplicative function of the strengths of his needs (N), incentives (I), and expectancies (E), e.g., $M = f(N \times I \times E)$. Likewise, the level of job performance (P) of a person was hypothesized as a multiplicative function of the levels of his ability (A) and motivation (M), e.g., $P = f(A \times M)$. When these two models were combined, the comprehensive model of motivation and performance was obtained and expressed by the formula:

$$P = f(A \times N \times I \times E).$$

By assigning a weighting factor for each major variable in the model, the formula was further specified as follows:

$$P = a A^{b1} N^{b2} I^{b3} E^{b4}.$$

This formula represents a general predictive model of motivation and performance in the study.

A sample of college students was used to test the model in the study. One of the major limitations of the study, as stated previously, was that the sample of students could not represent the general working population. In this respect, the findings of the present study may be applicable to the particular class of population, that is, students. However, it is hopefully expected that the methodological approach used in this study can be utilized in analyzing other types of goal-directed behavior.

The following assumptions, within the context of the general assumptions and hypotheses stated in the introductory chapter, were used as the basis for formulating the hypotheses to be developed and tested:

1. The subjects of the study represented typical college students whose desire to make better grades was part of their academic goals.

2. A student's level of ability or intelligence did not significantly change in a short time period. Thus, his college entrance examination score reasonably represented his present level of ability.

3. The students answered the questions appropriately, expressing their feelings and beliefs about their needs, incentives, and perception.

4. A student's motive to study is an additive function of such needs as self-actualization, self-respect, and security.

5. A student's incentive to study is an additive function of such incentives as grades, job opportunity, and teacher supervision.

6. A student's level of expectation concerning a certain grade is an additive function of his perception about his ability and environment.

Based on these assumptions, the following experimental hypotheses were drawn and tested in the study:

1. The level of motivation of students (M) is a multiplicative function of the strength of needs (N), the strength of incentives (I), and the level of perception or expectation about their goal attainments (E): $M = f(N \times I \times E)$. In addition to this hypothesis two alternative hypotheses were introduced and compared: (1) motivation is a multiplicative function of expectancies (E) and the additive sum of needs (N) and incentives (I), or $M = f(N + I) \times E$; (2) motivation (M) is an additive function of needs (N), incentives (I), and expectancies (E).

2. The level of performance of students (P) is a multiplicative function of the levels of ability (A) and motivation (M) of students: $P = f(A \times M)$. An alternative hypothesis, that of an additive function of ability and motivation, was also introduced and compared: $P = f(A + M)$. The motivation measure (M) was taken from the best predictor of motivation among the three alternative measures described above.

Methodology and Procedure

The data were collected from college students in eight sections of an introductory course in management at Louisiana State University during the spring semester of 1966-67 academic year. In the analysis only the data for males were examined, because the characteristics of motivational measures for females are different from those for males.¹ Data of 175 male students were used in the study.

Description of the Measures

The measures used in this study were obtained from questionnaires and university records. A questionnaire, which was composed of thirty questions, explored the various facets of motivational factors. Each student participating in the survey was asked to answer the questions by checking the most appropriate alternative on each item, and was assured that his answers would not be seen by anyone except the research personnel. With reference to each question, relative scores were ranked from one, representing a weak

¹J. W. Atkinson, J. R. Batian, R. W. Earl and G. H. Litwin, "The Achievement Motive, Goal Setting, and Probability Preferences," Journal of Abnormal and Social Psychology, Vol. 60, No. 1 (January, 1960), pp. 27-36.

strength of a variable, to five, representing a strong strength, and were recorded on a five-point scale for each question.

Information obtained from the university records included both college entrance exam scores and final exam scores of the students. The entrance exam scores were expressed in terms of percentile and the final scores were recorded on a 200-point scale.

The various measures used to test the hypotheses are described below. A copy of these measures is found in Appendix I.

Motive Measures²

The motive-to-study is the strength of needs which impel a student to strive for a goal or a set of goals implicit in study. The motive-to-study score was derived by summing up the responses of each student to those questions which are designed to measure the extent of his needs for studying. The motive-to-avoid-study is the tendency to offset the motive-to-study and to prefer a non-study environment. The motive-to-avoid score was

²The theoretical framework for these measures is related to John W. Atkinson, Introduction to Motivation (Princeton: D. Van Nostrand, 1964), pp. 240-268; see also Bernard P. Indik, "Measuring Motivation to Work," Personnel Administration, Vol. 29, No. 6 (November-December, 1966), pp. 39-44.

derived by summing up the responses of each student to those questions which were designed to measure the degree of a student's needs to offset the motive-to-study. The resultant score for motive-to-study was obtained by subtracting the motive-to-avoid score from the motive-to-study score.

Table 2 shows the intercorrelations between the items in both the motive-to-study and the motive-to-avoid-study measures meeting the aforementioned criteria. The items between Q1 and Q5 represent the needs for study; the items between Q6 and Q10 represent the forces which offset the motive to study.

Table 2
Intercorrelations Between Items in Motive
(N = 175)

Items	Q2	Q4	Q5	Q6	Q7	Q9	Q10	P
Q1	<u>.15</u>	<u>.33</u>	.03	<u>-.22</u>	.05	-.04	<u>-.16</u>	<u>.15</u>
Q2		<u>.22</u>	<u>.34</u>	<u>-.10</u>	<u>-.31</u>	-.13	-.12	.12
Q4			<u>.42</u>	-.06	<u>-.01</u>	<u>-.31</u>	-.08	.14
Q5				-.00	-.07	<u>-.22</u>	-.12	.07
Q6					.13	<u>.16</u>	<u>.20</u>	<u>-.33</u>
Q7						<u>.22</u>	<u>.16</u>	<u>-.20</u>
Q9							<u>.37</u>	<u>-.38</u>
Q10								<u>.38</u>

Degree of freedom = 174; $r_{.05} = .15$; $4.01 = .19$. Q1 → Q5 = motive-to-study; Q6 → Q10 = motive-to-avoid-study; P = performance.

Items Q3 and Q8 were eliminated because these items did not independently show significant correlations with items in the same scale or with the performance score. The items Q2, Q4 and Q5 show low correlations with the performance score but have significant correlations with items in their own scale. The items in the motive-to-study scale have generally significant positive inter-correlations among themselves, as do the items in the motive-to-avoid-study scale. The items in the motive-to-study scale have either negative correlations or low correlations with the items in the motive-to-avoid-study scale.

Incentive Measures

The incentive-to-study is the strength of external forces that induce an individual to study. The incentive-to-study score was derived by summing up the responses of each student to the questions which were designed to measure the extent to which each incentive induced a student to study. The incentive-to-avoid-study is the strength of external forces that interfere with the incentive-to-study. The incentive-to-avoid score was obtained by summing up the responses of each student to the questions that were designed to measure the strength of offsetting the

incentive-to-study. The resultant score for incentive-to-study was obtained by subtracting the incentive-to-avoid-study score from the incentive-to-study score.

Table 3 shows the intercorrelations between the items in both incentive-to-study and incentive-to-avoid-study measures meeting the criteria. The items between Q11 and Q15 represent the incentives for study; the items between Q16 and Q20 represent the incentive-to-avoid-study.

Table 3
Intercorrelations Between Items in Incentive
(N = 175)

Items	Q12	Q16	Q17	P
Q11	<u>.48</u>	-.05	-.05	.03
Q12		-.12	<u>-.17</u>	<u>.25</u>
Q16			<u>.47</u>	-.14
Q17				<u>-.27</u>

Degree of Freedom = 174; $r.05 = .15$; $r.01 = .19$. Q11 and Q12 = incentive-to-study; Q16 and Q17 = incentive-to-avoid-study; P = performance.

Items Q13, Q14, Q15, Q18, Q19, and Q20 were eliminated. None of these items showed either a significant correlation with items in the same scale or with the performance score. Items Q11 and Q16 show low correlations with the performance score, but have significant correlations with items in their

own scales. The items in the incentive-to-study scale show significant correlations among themselves, as do the items in the incentive-to-study items which are negatively correlated with the incentive-to-avoid-study items.

Expectancy Measures

The expectancy-to-study is the subjective perception of the individual concerning his ability and the environment around him. This perception determines the operational goal for which a person actually strives. The expectancy-to-study score was derived by summing up the responses of each student to the questions which were designed to measure the extent to which a student thought he could obtain a goal implicit in his study. The expectancy-to-avoid-study is the strength of expectancy that offsets the positive expectancy-to-study. The expectancy-to-avoid-study measure was derived by summing up the responses of each student to the questions which were designed to measure the strength of expectancy-to-avoid-study. The resultant score for the expectancy variable was obtained by subtracting the expectancy-to-avoid-study score from the expectancy-to-study score.

Table 4 shows the intercorrelations between the items in both expectancy-to-study and expectancy-to-avoid-study

measures meeting the criteria. The items between Q21 and Q25 represent the expectancy-to-study; the items between Q26 and Q30 represent the expectancy-to-avoid-study.

Table 4
Intercorrelations Between Items in Expectancy
(N = 175)

Items	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	P
Q21	<u>.58</u>	<u>.41</u>	.14	<u>.29</u>	<u>-.39</u>	<u>-.19</u>	<u>-.20</u>	<u>-.20</u>	<u>-.40</u>	<u>.37</u>
Q22		<u>.25</u>	-.02	<u>.17</u>	<u>-.29</u>	-.03	<u>-.19</u>	<u>-.15</u>	<u>-.32</u>	<u>.29</u>
Q23			<u>.30</u>	.13	<u>-.37</u>	<u>-.24</u>	<u>-.34</u>	<u>-.28</u>	<u>-.29</u>	<u>.22</u>
Q24				.01	-.01	.01	-.04	-.06	-.12	<u>.19</u>
Q25					-.07	-.02	-.11	-.11	<u>-.18</u>	<u>.21</u>
Q26						<u>-.29</u>	.12	<u>.39</u>	<u>.45</u>	<u>-.36</u>
Q27							.07	<u>.29</u>	<u>.37</u>	<u>-.15</u>
Q28								<u>.22</u>	<u>.34</u>	<u>-.17</u>
Q29									<u>.44</u>	<u>-.21</u>
Q30										<u>-.41</u>

Degree of freedom = 174; $r_{.05} = .15$; $r_{.01} = .19$. Q21 → Q25 = expectancy-to-study; Q26 → Q30 = expectancy-to-avoid-study; P = performance.

The items in the expectancy-to-study scale generally show positive intercorrelations among themselves, and also show significant correlations with the performance score. The items in the expectancy-to-avoid-study scale show positive intercorrelations among themselves, but show

negative correlations with the items in the expectancy-to-study scale.

Motivation and Performance Measures

The theoretical components of the total motivation score were discussed in the previous chapter. As the level of motivation was hypothesized as a multiplicative function of needs, incentives, and perception (or expectancy), the motivation score was obtained by multiplying the resultant scores for motive-to-study (N), incentive-to-study (I), and expectancy-to-study (E): $M = N \times I \times E$. Alternative motivation measures were obtained by these formulas: (1) $M = (N + I) \times E$ and (2) $M = N + I + E$. The motivation measure which demonstrated the best predictability of performance among those alternatives was adopted in this model of performance.

The performance measure was represented by the final exam scores of the students. Since all students in the sample took the same examination, it was reasonable to assume that the final exam scores would represent their level of performance.

As it has been hypothesized that the level of performance of students (P) is a multiplicative function of the levels of ability (A) and motivation (M) of students,

and the college entrance examination scores were assumed to represent the level of ability; the performance measure was correlated with the product of multiplication between motivation and ability scores. The alternative additive hypothesis was correlated with performance and compared with the multiplicative hypothesis.

Criteria For Selecting the Measures

As a basis for validating the measures of motivation, the following criteria were used.³ First, each item in the measures had to fit the concept for which it was used. Accordingly, a few questions about which students seemed to be confused were dropped from the measures. For those researchers who wish to use this type of questionnaire, the semantic differential technique is suggested to test the meanings of the questions used.

Second, each question within a scale had to show a generally positive intercorrelation with items in the same scale and a negative intercorrelation with items in the opposing scale. The reason for this criterion was to

³The first two criteria used in the study are similar to the criteria used in Bernard P. Indik, Motivation to Work (New Brunswick: The Institute for Management and Industrial Relations, Rutgers - The State University, 1966), pp. 54-56.

differentiate positive needs toward study from negative needs that offset the motive-to-study. The magnitude of intercorrelations indicates the degree of homogeneity among items. High homogeneity among items reflects high reliability and/or considerable overlap among items. Low homogeneity, on the other hand, reflects unreliability among items, and/or a different nature of the measures. Negative correlations represent an opposite nature of the measures. In this study, those items which had low intercorrelations at .05 confidence level were eliminated from the measures.

Those items which had homogeneous relationships were combined into a scale, by summing up the responses of students to those questions, which represented the score for the particular scale. The resultant score for a particular measure was obtained by subtracting the negative score from the positive score within the same scale. As mentioned in the previous chapter, the measurement technique for deriving the resultant scores for motivational measures was adopted as an approximation of the refined conceptual tool--vector analysis--for analyzing motivational phenomena.

Finally, each positive item had to show a generally positive correlation with the performance score. Conversely,

each negative item had to show a generally negative correlation with the performance score. This criterion was adopted to distinguish the predictability of each item. Accordingly, those items which did not show significant correlation at .05 confidence level were eliminated from the measures. This criterion can partially correct the limitations in the first and second criteria. The validity of the measures, which were selected by using those two criteria, could hardly be tested because of the introspective and unobservable nature of the concepts that were to be measured. However, the third criterion was suitable for testing the validity of the measures. The scores on the measures were compared with the observable consequences of motivated behavior and performance of the unobservable. Intercorrelations between items are shown in Appendix II.

Statistical Treatments⁴

The first hypothesis was tested by correlating the motivation measure with the performance measure. The measurement of each major variable of motivation was also

⁴It is recognized that all statistical manipulations of the data were not performed because of the limitations imposed upon the author. Thus, this statistical treatment is limited and cannot be construed as comprehensive.

correlated with other major variables and with the performance score. Various measures were compared among groups of high, middle and low performers. The second hypothesis was tested by relating the measures of ability and motivation with performance. Significant improvement of correlation between the performance measure and the multiplicative product of ability and motivation would verify the hypothesis.

Simple correlation coefficients were used throughout the study to determine the degree of relationships between variables. The .05 level of confidence was used as the basis for determining the significance of the magnitude of correlations; results of .05 and .10 level of confidence are included to suggest trends. Differences between high, middle, and low performer groups were evaluated by the "t" test, and the confidence levels of the t values are also shown with the tests.

Finally, the stepwise multiple regression analysis was employed in the study for the purpose of fitting the regression line of the input data consisting of the four major independent variables of performance, e.g., ability, need, incentive, and expectancy. Four intermediate steps of regression analysis were processed, adding one variable

at a time which would improve the "goodness of fit" of the regression line. As the comprehensive model was expressed in terms of log (Cobb-Douglas) function, the sets of data were converted into log numbers, and then a constant and four coefficients were found. The coefficients were assigned to the major variables respectively as weighting factors.

Results of the Study

In this section the data concerning the effects of motivational measures on motivation and performance are examined. The findings relevant to the testing of hypotheses are presented thereafter.

Motive Measures and Performance

The score on motive measures showed the correlations of .73 ($P < .01$) with motivation and .56 ($P < .01$) with performance. These positive correlations indicated that the motive measure has a positive relationship with motivation and performance. When the motive measures were compared between high, middle, and low performer groups, as shown in Table 5, 78.2 per cent of high performers scored over 11 on the motive scale, while 81.5 per cent of low performers scored under 10. The differences in the

Table 5
Relationship Between Motive Measures and
Levels of Performance

Motive Score	Percent of Each Performance Group With This Score			Total Per- formers
	(1) High	(2) Middle	(3) Low	
1-2	0	2.8	14.8	5.3
3-4	0	5.7	11.1	5.3
5-6	0	14.3	11.1	8.5
7-8	6.3	8.6	37.1	16.0
9-10	15.6	20.0	7.4	14.9
11-12	12.5	17.2	11.1	13.8
13-14	25.0	17.2	7.4	17.0
15-16	28.1	11.4	0	13.8
17-18	6.3	0	0	2.2
19-20	6.3	2.8	0	3.2
Total	100.0	100.0	100.0	100.0
N =	52	69	54	175
X =	12.17	9.22	6.41	9.23
σ =	2.62	3.55	3.25	3.90

Diff (1,2) t = 1.62
 P = .06 (Relatively significant)
 Diff (2,3) t = 1.34
 P = .08 (Relatively significant)
 Diff (1,3) t = 3.46
 P < .01 (Very significant)

motive measures between high and middle performers ($t = 1.61$, $P = .06$) and between middle and low performers ($t = 1.34$, $P = .08$) were relatively significant. Moreover, the difference between high and low performers ($t = 3.46$, $P < .01$) was very significant.

The aforementioned correlations and data in Table 5 indicated that the motive scale tends to be a reliable predictor of motivation and performance and that it is probably a major contributor to both motivation and performance. The data are interpreted as meaning that the stronger the need or motive to study, the higher the levels of motivation and performance. The strength of motive seems to be independent of ability because the correlation between the motive scale and the level of ability was statistically insignificant ($r = .13$, $P > .05$). (See Table 8.)

The students who participated in the study ranked the strength of their needs-to-study in the following order: (1) job security (4.2); (2) self-esteem (3.9); (3) economic necessity (3.8); (4) new knowledge (3.6); and (5) friendship (2.8). These figures could be interpreted as support for Maslow's need theory. In searching for the goal attainment implicit in study, the need for job security was most

important for students because they were then in the process of preparing for better jobs which would give them economic and social security. The socialization need was not implicit in the motive to study, and the need for new knowledge and experience seemed to be important to students only after they could reasonably satisfy the lower level needs.

Incentive Measures and Performance

The score on incentive measures showed a correlation of .50 ($P < .01$) with motivation and .34 ($P < .01$) with performance. Although the correlation coefficients were significant, they were the least of all the measures of both motivation and performance. When the incentive measures were compared between high, middle, and low performer groups, as shown in Table 6, 58.2 per cent of high performers scored over 9, while 75.2 per cent of low performers were under 8. Although the difference in incentive measures between high and middle performers ($t = .28$, $P > .25$) was statistically insignificant, the differences between middle and low performers ($t = 1.68$, $P = .05$) and between high and low performers ($t = 2.15$, $P = .02$) were significant.

Table 6
Incentive Measures and Differences
of Performance

(N = 175)

Incentive Score	(1) High	(2) Middle	(3) Low	Total
1-2	0	5.7	11.1	5.3
3-4	3.1	2.9	7.4	4.3
5-6	16.8	14.3	48.2	25.6
7-8	21.9	31.4	18.5	24.4
9-10	37.5	25.8	7.4	24.4
11-12	14.5	17.2	3.7	11.7
13-14	6.2	2.9	3.7	4.3
Total	100.0	100.0	100.0	100.0

N =	52	69	54	175
X =	8.58	8.26	6.04	7.66
σ =	2.45	2.59	2.53	2.74

Diff (1,2)	t = .29
	P > .25 (Insignificant)
Diff (2,3)	t = 1.68
	P = .05 (Relatively significant)
Diff (1,3)	t = 2.15
	P = .02 (Significant)

The aforementioned correlations and the data in Table 6 indicated that the incentive scale can be a predictor of motivation and performance, but only with limited capacities. One possible explanation for the low correlation is that grades and employment are equally important for students regardless of their ability and performance. The correlation of .14 ($P > .05$) with ability indicated that incentive value for a student is independent of his ability (See Table 8). The students in the sample ranked the importance of various incentives in the following order: (1) grade (4.1); (2) employment (4.0); (3) interesting subject (3.2); (4) teacher's instruction (3.1); and (5) group effect (2.9).

Expectancy Measures and Performance

The score on expectancy measures showed correlation of .68 with motivation and .47 ($P < .01$) with performance. (See Table 8.) When these measures were compared between high, middle, and low performer groups, as shown in Table 7, 75.0 per cent of high performers scored over 11 on the expectancy measures, while 72.4 per cent of low performers scored under 10. The differences in the expectancy measures between high and middle performers ($t = .68$, $P = .25$) and between middle and low performers ($t = .80$, $P = .18$)

Table 7
 Expectancy Measure and Differences
 of Performance
 (N = 175)

Expectancy Score	(1) High	(2) Middle	(3) Low	Total
1-2	0	8.6	18.6	8.5
3-4	0	5.7	11.1	5.3
5-6	3.1	14.3	7.4	8.5
7-8	9.4	8.6	22.2	12.8
9-10	12.5	25.7	11.1	17.1
11-12	25.0	8.6	14.8	15.9
13-14	9.4	11.4	11.1	10.6
15-16	12.5	14.3	3.7	9.6
17-18	15.6	2.8	0	7.4
19-20	9.4	0	0	3.2
21-22	3.1	0	0	1.1
Total	100.0	100.0	100.0	100.0
N =	52	69	54	175
X =	12.83	10.32	7.80	10.28
σ =	4.67	4.38	4.74	4.96
Diff (1,2)	t = .68 P = .25 (Insignificant)			
Diff (2,3)	t = .80 P = .18 (Insignificant)			
Diff (1,3)	t = 1.26 P = .11 (Relatively significant)			

were statistically insignificant. But, the difference between high and low performers ($t = 1.26$, $P = .11$) was relatively significant.

The data in Table 7 and Table 8 indicated that the expectancy scale can be a useful predictor of motivation and performance, but with a wide variation. The variation may be due to the fact that individuals are subject to various personality variables. For example, some individuals are inherently optimistic in nature about the consequences of their actions while others are more subject to fear and anxiety. Nevertheless, the indications were that the expectancy scale is a reliable predictor of motivation and performance, especially for high performers ($r = .76$, $P < .01$). (See Table 9).

Expectancy also seems to be independent of ability. The overall correlation with ability was relatively low ($r = .15$, $P = .05$). In high and middle performer groups, particularly, the expectancy measures were poorly correlated with ability. These findings support the following theses: (1) The level of expectation of achieving a goal is determined by an individual's subjective feeling about the goal attainment; and (2) a person is motivated to the extent to which he perceives that the goal can probably

be attained.

The students in the sample ranked the strength of expectancy in the following order: (1) perception about the subject (3.4); (2) perception about their ability (3.0); (3) perception about their fellow students (2.6); and (4) perception about their teacher (2.4).

Motivation Measures and Performance

The first hypothesis, $M = N \times I \times E$, and its alternatives, (1) $M = (N + I) \times E$ and (2) $M = N + I + E$, were tested by employing the measures for motive, incentive, and expectancy. Table 8 shows the intercorrelations between the measures of motivation, ability, and performance.

Table 8
Intercorrelations Between Motivational
Measures, Ability, and Performance
(N = 175)

Measures	IM	EM	M1	M2	M3	A	P
Motive	<u>.41</u>	<u>.38</u>	<u>.72</u>	<u>.70</u>	<u>.76</u>	.13	<u>.56</u>
Incentive		-.08	<u>.49</u>	<u>.38</u>	<u>.43</u>	.14	<u>.34</u>
Expectancy			<u>.68</u>	<u>.79</u>	<u>.69</u>	.16	<u>.47</u>
Motivation 1				<u>.96</u>	<u>.84</u>	<u>.16</u>	<u>.64</u>
Motivation 2					<u>.88</u>	<u>.19</u>	<u>.63</u>
Motivation 3						<u>.20</u>	<u>.59</u>
Ability							<u>.46</u>

Degree of freedom = 174; $r_{.05} = .15$; $r_{.01} = .19$. $M1 = N \times I \times E$; $M2 = (N + I) \times E$; $M3 = N + I + E$.

Note that all measures were positively correlated with motivation and performance. The incentive scale showed a slightly low correlation with motivation and performance, but it was still a useful measure for motivation and performance ($r = .50$ and $r = .34$, $P < .01$).

The motive measure was positively and significantly intercorrelated with the measures for incentive and expectancy. The relationships tend to support the theses that: (1) The stronger the need or motive to perform a task, the higher the incentive value of the task a person is undertaking; and (2) the stronger the need or motive to perform a task, the more a person considers the task likely to be achieved.

But the intercorrelation between incentive and expectancy, though insignificant, was negative ($r = -.08$, $P < .05$). As shown in Table 9, the inverse relationship is very clear and significant ($r = -.49$, $r = -.20$, $P < .01$), especially, in low and middle performer groups. This result tends to validate Atkinson's thesis that $I = 1 - P$, where I is incentive value and P is subjective probability.⁵ One possible explanation for the inverse relationship,

⁵John W. Atkinson, Introduction to Motivation (Princeton: D. Van Nostrand, 1964), p. 242.

Table 9
Intercorrelations Between Motivational
Measures, Ability, and Performance

A. High Performers (N = 52)

Measures	IM	EM	M	A	P
Motive	.07	.29	.58	-.29	.13
Incentive		-.08	.42	-.18	.02
Expectancy			.76	.04	.39
Motivation				-.21	.38

r.05 = .15; 4.01 = .19.

B. Middle Performers (N = 69)

Measures	IM	EM	M	A	P
Motive	.42	.13	.70	.13	.31
Incentive		-.20	.49	.20	-.11
Expectancy			.60	-.06	.37
Motivation				.18	.35
Ability					.36

r.05 = .15; r.01 = .19.

C. Low Performers (N = 54)

Measures	IM	EM	M	A	P
Motive	.19	.22	.78	-.10	.01
Incentive		-.49	.20	-.02	.12
Expectancy			.50	.18	.17
Motivation				.49	.21
Ability					.49

r.05 = .15; r.01 = .19.

especially for low performers, is that the subjective probability of attaining a good grade was low, but the incentive value of the grade was high. For low performers, the level of expectancy depended largely upon the level of ability ($r = .18$, $P < .05$).

The multiplicative motivational measure, or $M = N \times I \times E$, shows the correlation of .64 ($P < .01$) with performance, while its first alternative measure, $M = (N + I) \times E$, shows .63 ($P < .01$) and its second alternative, $M = N + I + E$, shows .59 ($P < .01$). The different correlations between those three alternatives are not significant, and indicate that there are no significant differences between those alternative measures. However, they tend strongly to support the thesis that the study of joint effect of the major variable is a far better predictor than the study of motives ($r = .56$), incentives ($r = .39$), and expectancies ($r = .48$) taken independently.

Motivation, Ability, and Performance

The data in Table 8 tended to show that the motivation measure ($r = .64$) is a better predictor of performance than the ability measure ($r = .46$). Generally, motivation is more positively related to the level of performance than is ability. The theoretical implication of this result is

significant for personnel administrators. It can be generalized that in selecting employees, the level of their abilities is a useful predictor of their future performance, but the more significant job of management comes in motivating the personnel so selected.

When the differences of ability and motivation, and their effects on performance, were compared between high and low performer groups, as shown in Table 10, ability was more positively related to the level of performance for lower performers, while motivation correlated better with performance for higher performers. One possible interpretation of these findings is that performance depends largely upon motivation; but, when the level of motivation is low, it depends largely upon ability.

Table 10
Differences of Ability, Motivation, and
Performance Among Various Performers
(N = 175)

Measures	(1) High	(2) Middle	(3) Low	Total
Ability	.38	.36	.48	.46
Motivation	.37	.35	.26	.64
A x M	.62	.45	.31	.66
A + M	.61	.41	.26	.63

Degree of freedom = 174; $r.05 = .15$; $r.01 = .19$.

Theoretically, it was expected that the multiplicative function of ability and motivation would significantly increase the predictability of performance. Unfortunately, the results of the present study did not strongly support this hypothesis. However, in high and middle performer groups the multiplicative measures were much better predictors of performance than were ability and motivation measures. (See Table 9). Although the overall multiplicative performance measure did not significantly increase the predictability, it still showed a statistically significant correlation with performance ($r = .66$, $P < .01$). Furthermore, the overall multiplicative measure was at least a better predictor than the ability measure and had a slightly better predictability than that of the motivational measure. In this respect, the study also supported the second hypothesis: $P = A \times M$.

The differences in the size of the correlations between the alternative hypotheses of motivation and performance were not significant. The data in Table 8 and Table 10 indicated that the additive and multiplicative products of motivational measures and those of performance measures have almost the same capacity for predicting performance of students. The findings of the study,

nevertheless, support the multiplicative nature of the major motivational variables and of the performance variables. Consequently, the findings support the multiplicative nature of the formula in the general theory of motivation and performance: $P = f (A \times N \times I \times E)$.

Furthermore, the results of the study strongly supported the theses that: (1) The study of the simultaneous interactions among the major motivational variables provides a better prediction of motivation than that of individual variables independently; and (2) the study of the joint effects of ability and motivation provides a better tool for predicting performance.

When an attempt was made to distinguish the degree of contribution of each variable on the level of performance, a constant and the coefficients of power for the major variables were found to be:

$$P = 48.5 A^{1.34} \cdot N^{1.19} \cdot I^{1.23} \cdot E^{1.24}$$

This formula provides a predictive model of performance of students when their academic activities in class are measured in a 200-point scale. The coefficient of correlation between the multiplicative product of the model and the level of performance of students ($R = .66$, $R^2 = .43$)

was statistically significant. This correlation coefficient indicates that the model is capable of predicting performance of students. However, practical application in its present form would require improvement in the testing measures used, as the correlation is not high enough to insure a reliable prediction of performance.

Summary and Conclusion

The main theses of the study were that the study of joint interactions between the three motivational variables would provide a better prediction of motivation than the individual variables independently, and that the study of joint interactions between ability and motivation would also provide a better tool of predicting performance. The findings of the empirical study strongly supported those major theses. Concerning the attempt to find the functional relationships between variables, the results of the study slightly supported the multiplicative nature of the motivation and performance formulas: (1) $M = f(N \times I \times E)$ and (2) $P = f(A \times M)$. However, the differences between the multiplicative and additive measures were not statistically significant.

Other major findings reported in both the partial theories and in the empirical study are summarized as follows: First, motivation was more positively related to performance than ability. However, when the differences of ability and motivation between various performer groups were compared, ability seemed to be more positively related to performance than motivation for low performers, and motivation was better correlated with performance than ability for high performers. These findings were interpreted as meaning that performance largely depends upon motivation. But when the level of motivation is low, performance largely depends upon ability.

Second, there was a significant correlation between the strength of motive and motivation. This result supported the partial theory of needs, e.g., the stronger the propensity of a person's needs, the stronger the general disposition of the individual to strive for the satisfaction of the needs.

Third, the students in the sample ranked their strength of needs in the order of job security, self-esteem, economic necessity, new knowledge and experience, and friendship. This finding was interpreted as supporting evidence for Maslow's need hierarchy theory. In the study,

students seemed to be reasonably satisfied with the need for economic necessity, but they ranked the need for job security highly because they were in the process of preparing for better jobs. The need for friendship was not implicit in the motive to study, and the need for new knowledge seemed to become important for them only after they could reasonably satisfy the other needs.

Fourth, a correlation of moderate size was obtained between the strength of incentive and motivation. The possible reason for this relatively low correlation was that the incentive values of grades and employment were equally important for most students regardless of their ability and performance. Nevertheless, the incentive scale was a useful measure of evaluating the levels of motivation and performance. The findings in the study generally supported the postulates in the partial theory of incentive: (1) The bigger the magnitude of incentive value a person is given, the stronger the tendency of the person to either approach or avoid the incentive; (2) the reward should be varied with the variation of performance.

Fifth, a significant correlation was found between expectancy and motivation, but not between expectancy and ability. These results supported the postulates in the

partial theory of perception: (1) A person is motivated to the extent that he perceives that the attainment of a goal is probable; (2) the level of expectancy is largely determined by a person's subjective feeling about the goal attainment rather than his objective level of ability. However, lower performers showed a relatively significant correlation between expectancy and ability.

Sixth, significant correlations were found between motive and incentive measures, and between motive and expectancy measures. These findings were considered evidence for the theses: (1) The stronger the need or motive to perform a task, the higher the incentive value of the task to the person; (2) the stronger the need or motive to perform a task, the more the person considers the task likely to be attained.

Finally, a negative correlation was found between incentive and expectancy, especially in the lower performer group. This result supported Atkinson's assumption that incentive value of a goal is inversely related to the subjective probability of attaining the goal: $I = 1 - E$. According to Atkinson, an outcome which has a low probability, by virtue of that low probability, has a higher utility or incentive value than the same outcome would

have if it had a high probability. The findings in the present study, however, did not support this reasoning. Instead, the inverse relationship was caused by the fact that the incentive values of grade and employment were high even for those students low in ability and performance. The expectancy of the lower performers was below that of the other students because of their low level of ability.

CHAPTER VIII

SUMMARY AND CONCLUSION

Industrial psychologists and managerial practitioners have long been interested in searching for motivational factors that lead to a high level of motivation and performance. In this search, many scholars have realized the importance of needs, incentives, and perceptual variables in analyzing and explaining human motivation. However, there has been a tendency for researchers to concentrate on one variable, or a partial set of these variables, in their attempt to explain human motivation. As a result, while much is known about the separate effect of each of these variables, little is known about the nature of their simultaneous interactions. The tendency to stress one particular class of motivation determinants has led to the development of such partial theories of motivation as need theory, incentive theory, and perceptual theory.

This development of partial theories of motivation can be attributed to the intensive studies conducted within each specialized area of interest. However, they are so

ethnocentric that they have no universal applicability in understanding and analyzing a general class of motivated behavior which consists of a variety of motivational properties. The lack of a general theory of motivation in industry handicaps managers, not only in gaining an understanding of employee behavior, but also in finding effective solutions to the problems of motivating those employees.

The primary purpose of this study, therefore, was to develop a comprehensive model of human motivation which would include a broad class of determinants of motivation. Various determinants of motivation were derived from the partial theories of motivation. In this respect, the development of a comprehensive model depends upon the development of the partial theories. On the other hand, the partial theories, in this context, become more meaningful if the effects and contributions of motivational factors in each partial theory can be understood and evaluated within the framework of the whole.

In the comprehensive model of motivation, the strength of motivation (M) was hypothesized as a multiplicative function of the strengths of needs (N), incentives (I), and expectancies (E): $M = f(N \times I \times E)$; or more inclusively, $M = \sum f(N_i \times I_i \times E_i)$. This formula is essentially

similar to Atkinson's formula: $T_s = M_s \times P_s \times I_s$, where T_s is the tendency to achieve success, P_s the strength of expectancy of success, and I_s the incentive value of success.¹ It is, however, different from some conceptualizations in determining the strengths of the major motivational variables. Atkinson's theory of achievement motivation is mainly concerned with one particular class of needs, the achievement need. It applies mostly to risk-taking situations, and to the expectancy and incentive variables associated with the achievement need. His theory does not specify which motivational factors should be included under each major variable. Consequently, it does not consider the effects of other motivational factors in determining the strengths and the resultant forces of the major motivational variables. In the present motivation model, however, various needs such as physical wants, safety, affiliation, self-esteem, and self-actualization are taken into consideration in determining the strength of motive to do a task.

As a means of determining the resultant force of the various needs of an individual which pull him in different

¹John W. Atkinson, An Introduction to Motivation (Princeton: D. Van Nostrand, 1964), p. 242.

directions with different strengths, Hicks (1967) introduced a technique of vector analysis.² The resultant force is found by connecting the vectors end to end in a sequence, while maintaining the original lengths and directions. Although a vector analysis of this type may more closely approximate the reality of motivational phenomena, it is at this point only a conceptual tool, for the lengths and directions of the vectors cannot be identified.

To make the conceptual scheme operationally workable, it is suggested that the system be operated on a unidimensional basis as an approximation. For instance, a student's dominant need may be to study, but he may also have other needs which are totally opposing (socialization), partially opposing (money), neutral (self-respect), and partially identical (self-actualization). When these needs are operated on a five-point scale, the resultant force of his many needs can be found by subtracting the sum of the strengths of the opposing needs from the sum of the strengths of positive needs. The resultant forces for incentives and expectancies also can be found in this fashion. This operational technique leads to the postulate

²Herbert G. Hicks, The Management of Organizations (New York: McGraw-Hill Book Company, 1967), pp. 40-43.

that the relationship between motivational factors within a major motivational variable (e.g., needs, incentives, and expectancies) is additive.

The major concern of management in dealing with employees is to find the factors that lead to a high level of performance by employees. The secondary purpose of the study, therefore, was to relate the comprehensive model of motivation to the model of job performance. In the model of performance, performance (P) was hypothesized as a multiplicative function of ability (A) and motivation (M):
$$P = f(A \times M).$$

This formula was originally hypothesized by Maier³ and partially tested by other scholars. For instance, Vroom (1960) studied the relationships between ability and performance scores of supervisors who were classified as high, moderate, and low in motivation. He found fairly high positive correlations between the ability and performance of supervisors high in motivation, generally low positive correlations for those moderate in motivation, and zero or slightly negative correlations for those low in

³N. R. F. Maier, Psychology in Industry, 3rd Ed. (Boston: Houghton-Mifflin, 1965), p. 229.

motivation.⁴ Lawler (1966) also partially supported the hypothesis in his study of civil service personnel, where he found that when high ability managers were viewed, a clear relationship between attitudes (or motivation) and performance was apparent. However, when low ability individuals were considered, a similar relationship did not exist.⁵ These studies imply that the use of an ability variable will improve the correlation between ability and performance.

But, previous studies of this problem did not specify which variables of performance should be included under both motivation and ability. Thus, the author attempted to specify the subvariables of motivation by integrating the comprehensive model of motivation into the performance model as expressed by the formula:

$$P = f(A \times N \times I \times E),$$

or more inclusively,

$$P = f \left[A \times \sum (N_i \times I_i \times E_i) \right] .$$

⁴Victor H. Vroom, Some Personality Determinants of the Effects of Participation (Englewood Cliffs: Prentice-Hall, 1960), pp. 50-59.

⁵Edward E. Lawler, III, "Ability as a Moderator of the Relationship Between Job Attitudes and Job Performance," Personnel Psychology, Vol. 19, No. 2 (Summer, 1966), pp. 153-164.

As the contribution of each major variable on the level of performance may differ from that of the others, a further attempt was made to differentiate the contributions by assigning a coefficient of power to each variable as follows:

$$P = aA^{b1}N^{b2}I^{b3}E^{b4}.$$

This formula represents a general predictive model of motivation and performance in the present study.

Methodology

Descriptions of the Measures

In order to see if the comprehensive model of motivation and performance can be applied in practical situations, an empirical study was undertaken. The data were obtained from college students whose performances were measured in terms of final scores and whose abilities were represented by their college entrance exam scores. The sample for the study included 175 students who were registered in an introductory management course at Louisiana State University during the spring semester of 1967. The motivational measures used in the study were obtained from questionnaires which were designed to measure the strengths of needs, incentives, and expectancies. Each student was asked to answer the questions by

checking the appropriate alternatives on a five-point scale. Relative scores ranged from one, representing a weak strength of a variable, to five, representing a strong strength. Information obtained from the university records included both college entrance and final exam scores of the students.

The motive-to-study is the strength of needs that impel the student towards a goal or a set of goals implicit in the study. The motive-to-avoid-study was derived by summing up the responses of the student to those questions which were designed to measure the degree of his needs for studying. The motive-to-avoid-study is the tendency to offset the motive-to-study and to prefer a nonstudy environment. The avoidant score was obtained by summing up the responses of the student to those questions which were designed to measure the degree to which he felt the tendency offset the positive motive-to-study. Consequently, the resultant score for the motive measure was derived by subtracting the avoidant score from the motivant score. The resultant forces for incentives and expectancy measures were also obtained in this fashion.

The total motivation score was found by multiplying the resultant scores for the need (N), incentive (I), and

expectancy (E) measures: $M = N \times I \times E$. In addition, alternative motivation measures were obtained by the following formulas: (1) $M = (N + I) \times E$ and (2) $M = N + I + E$. The total motivation score which demonstrated the best predictability of performance among these three alternatives was adopted in the model of performance.

The scores in the performance measure, which were represented by student final exam scores, were correlated with the products of multiplication of the motivation and ability scores. In addition, an alternative hypothesis, $P = A + M$, was correlated with performance and compared with the multiplicative model.

Criteria for Selecting the Measures

As a basis for validating the motivational measures, the following criteria were employed.⁶ First, each item in the measures had to fit the concept for which it was used. A few questions which seemed to confuse students were dropped from the measures. (For those researchers who want to use this type of questionnaire, it is suggested that the semantic differential technique be used to test the meanings of the questions used in the measures.)

⁶The first two criteria were adopted from Bernard P. Indik, "Measuring Motivation to Work," Personnel Administration, November-December, 1966, p. 42.

Second, each question within a scale had to indicate a generally positive intercorrelation with items in the same scale and a negative intercorrelation with items in its avoidant scale. The reason for this criterion was to differentiate positive motive-to-study factors from negative ones. The magnitude of intercorrelations was hypothesized to indicate the degree of homogeneity among the items. High intercorrelations among items reflect high reliability and considerable overlap among items in a measure; low intercorrelations, on the other hand, reflect unreliability in the measure and a different nature of the items. In this study, those items which had statistically insignificant intercorrelations at .05 confidence level were eliminated from the measures.

Finally, each positive item had to show a generally positive correlation with the performance score; conversely, each negative item had to show a generally negative correlation with it. This criterion was adopted in order to distinguish whether each item was predictive of performance. Accordingly, those items which did not show significant correlation at .05 confidence level were eliminated from the measures.

Limitations of the Study

One of the major difficulties in constructing a comprehensive model of motivation and performance was in dealing with the introspective nature of the concepts of needs and expectancies, as these concepts are not directly testable. For this reason, some of the behaviorists, do not encourage the use of introspective concepts. These groups advocate the theory that scientific knowledge must be derived from directly observable and hence irrefutable data.

However, their criticism on the use of the introspective concepts seems partly unreasonable for the following reasons: First, although the concepts of "needs" and "expectancies" cannot be directly observable, they have observable consequences. For instance, a person who feels hungry searches for food. Thus, any information or measures obtained from these introspective concepts can be tested by comparing the measures with the observable consequences; hence, they too tend to be irrefutable. Second, as a motivational study is aimed at understanding and not merely describing observed phenomena, the concepts

of needs and expectancies are valid points for theory development.⁷

Another major difficulty occurred in selecting a sample of subjects which would represent the whole population. Theoretically, it may be desirable to include various subsamples of the universe. In this respect, the findings of the present study may be applicable only to the particular class of the universe--students. However, the methodological approach used in the present study can be utilized in analyzing other types of goal-achieving behavior. Furthermore, it seems desirable to develop a comprehensive model for each particular class of the universe, for each group may require some particular attention which is unique in each situation.

Finally, the statistical treatments used in the study were limited by the factors of time, cost, and lack of availability of computer time.

Results

The findings of the study basically supported the multiplicative nature of the models of motivation and

⁷See Tapas Majumdar, The Measurement of Utility (London: Macmillan, 1958), pp. 78-111.

performance: (1) $M = f(N \times I \times E)$ and (2) $P = (A \times M)$.

The multiplicative motivational measure, or $M1 = N \times I \times E$, showed a correlation of .64 ($P < .01$) with performance, while its alternative measures, (1) $M2 = (N + I) \times E$ and (2) $M3 = N + I + E$, showed correlations of .63 and .59, respectively. Although the magnitudes of the correlations of the joint measures were statistically significant and greater than those of the individual measures, the differences between the three alternative measures were nominal. These results indicated that there are no significant differences between the alternative joint measures. Nevertheless, the results strongly support the thesis that the joint measures provide better predictors than do the individual measures when considered independently.

The multiplicative performance measure, $P = A \times M$, showed a correlation of .66 ($P < .01$) with performance, while its alternative measure, $P = A + M$, showed a correlation of .63. Unfortunately, the difference between the two alternatives was not great enough to support the multiplicative hypothesis. However, the multiplicative method tended to be slightly better predictors of performance, throughout the various performer groups, than those of the additive method.

It was also expected that, theoretically, the multiplicative performance measure would significantly improve the predictability of performance. The results of the study supported this point only slightly. In high and middle performer groups, however, the multiplicative performers measures ($r = .62$ and $r = .45$) demonstrated much better predictabilities of performance than ability ($r = .38$ and $r = .36$) and motivation ($r = .37$ and $r = .35$), respectively. Furthermore, the overall multiplicative measure was at least a better predictor of performance than those of the ability, motivation, and additive measures. Considering all these results, the study also supported the multiplicative performance model.

As the findings generally supported the multiplicative nature of motivational and performance models in the study, they may also support the multiplicative nature of the comprehensive model of performance: $P = f(A \times N \times I \times E)$. When a further attempt was made to differentiate the degree of contribution of each major variable on the level of performance, the constant for the model and the coefficients of power for the variables were as follows:

$$P = 48.5A^{1.34}N^{1.19}I^{1.23}E^{1.24} .$$

This formula is a predictive model of performance of students when their academic activities in class are measured on a 200-point scale. The coefficient of correlation, or the degree of association, between the product of the model and the actual level of performance of students, $R = .66$ ($R^2 = .45$), was statistically significant. This correlation coefficient indicated that the model is capable of predicting the performance of students. However, its practical application in its present form will require improvement in the measures used, as the size of correlation was not enough to insure a reliable prediction of performance.

Other major findings reported in this study may be summarized as follows:

First, a significant correlation was found between motive and motivation. This result supported the hypothesis that the stronger the propensity of an individual's needs, the stronger the general disposition of the individual to strive for the satisfaction of the needs;

Second, a moderate amount of correlation was obtained between incentive and performance. Although the size of the correlation was not large, it could be considered as a useful predictor of performance. As the incentive scores

were relatively high for most students, it could be stated that incentives are strong inducements for action;

Third, a significant correlation was found between perception and motivation. This result was interpreted as evidence for the hypothesis that a person is motivated to the extent to which he perceives that the attainment of a task is probable;

Fourth, a significant intercorrelation was found between motive and incentive measures. This finding substantiated the idea that the stronger the need or motive to perform a task, the higher the incentive value of the task a person is undertaking;

Fifth, a similar magnitude of correlation was found between motive and expectancy. This finding supported the belief that the stronger the need or motive to perform a task, the more the person considers the task likely to be attained;

Sixth, there was an insignificant negative correlation between incentive and expectancy. But, in the low performer group the inverse relationship between them was very significant. The result was interpreted as evidence for the hypothesis that the incentive values of grades and

employment are important for most students, but low performers did not expect better grades because of their low intelligence;

Seventh, the expectancy measure showed a low correlation with ability. This result supported the belief that the subjective probability of obtaining a goal is determined by a person's subjective feeling about the goal attainment rather than by his objective ability; and

Finally, motivation tends to be more positively related to performance than to ability. However, when the differences between performer groups were compared, ability was more closely related to performance for low performers, while motivation was more positively related to performance for high performers.

Implications

The findings of this study lead to three major implications concerning the development of a comprehensive model of motivation and performance. First, the partial theories of motivation were integrated into a general model of motivation which was in turn incorporated into a general model of performance. The total theoretical structure was called a comprehensive model of motivation

and performance. Theoretical developments of this type tend to reinforce the development of partial theories as a sound basis for developing a general theory, and requires a more refined tool for analyzing the complexity of a broad motivational system. The present study has attempted to reorganize and systematize previous research and literature to make it suitable for the development of a general theory. An attempt was also made to develop a tool for dealing with a variety of determinants of motivation and performance in the analytical scheme. The analytical scheme could systematize the complex system of motivational phenomena which was composed of various subsystems, and could serve as a general code that could be decoded into partial theories applicable for analyzing particular subsystems of motivation.

Second, the approach to motivation used in the study shows many promising possibilities for: (1) measuring and predicting motivational levels of employees; (2) finding motivational and nonmotivation factors which lead to a high level of motivation and performance; and especially, (3) using this information for selecting employees and for guiding personnel. Information obtained from this line of study may encourage scholars and practitioners of

motivation to consider a broad class of determinants of motivation and performance and their joint effects on motivation and performance in a more systematic fashion. Some of the evidence concerning the joint effects of need, incentive, and perception on motivation suggests that management should try to balance these major variables so as to maximize the motivational consequences to employees. Likewise, evidence concerning the joint effects of ability and performance suggests that management should select employees who have ability and skill so as to increase their potentials for high performance, and then motivate those individuals to bring their abilities into line with their actual performance.

Finally, the methodological approach in the present empirical study could be improved to develop a more reliable motivation and performance model. In this study, the degree of association between the dependent variable and the independent variables, although small, was relatively significant. By improving and refining the measures, a more reliable model for predicting the level of motivation and performance could be developed. The measures in this study were designed to explore the goal-seeking behavior in academic activities, but these types of measures can be

utilized for other types of goal-seeking behavior. In essence, the methodological approach demonstrated the fact that the development of a general theory is not only theoretically meaningful but also operationally workable.

A final suggestion, however, is that the application of this type of predictable model in a real world requires further refinement of the measures.

BIBLIOGRAPHY

- Abrams, Stanley. "The Need System of College Students," The Journal of Social Psychology, Vol. 66, Second Half (August, 1965), 227-239.
- Adams, J. Stacy and William B. Rosenbaum, "The Relationship of Worker Productivity to Cognitive Dissonance About Wage Inequities," Journal of Applied Psychology, Vol. 46, No. 3 (June, 1962), 161-164.
- Adams, J. Stacy and Patricia R. Jacobsen, "Effects of Wage Inequities on Work Quality," Journal of Abnormal and Social Psychology, Vol. 69, No. 1 (July, 1964), 19-25.
- Andrews, I. R. "Wage Inequity and Job Performance: An Experimental Study," Journal of Applied Psychology, Vol. 51, No. 1 (February, 1967), 39-45.
- Argyris, Chris. Understanding Organizational Behavior. Homewood, Dorsey Press, 1960.
- Arnold, Magda B. Story Sequence Analysis; A New Method of Measuring Motivation and Predicting Achievement. New York: Columbia University Press, 1962.
- Asher, James J. "Toward A Neo-Field Theory of Behavior," Journal of Humanistic Psychology, Vol. IV, No. 2 (Fall, 1964), 85-94.
- Atkinson, John W. An Introduction to Motivation. Princeton, N.J.: Van Nostrand, 1964.
- _____. "Some General Implications of Conceptual Developments in the Study of Achievement Oriented Behavior," in M. R. Jones (ed.), Human Motivation: A Symposium. Lincoln: University of Nebraska Press, 1965.

- _____. Motives in Fantasy, Action, and Society: A Method of Assessment and Study. Princeton, N.J.: Van Nostrand, 1958.
- Atkinson, John W., Jarvis R. Bastian, Robert W. Earl and George H. Litwin. "The Achievement Motive, Goal Setting, and Probability Preferences," Journal of Applied and Social Psychology, Vol. 60, No. 1 (January, 1960), 27-36.
- Atkinson, J. W. and N. T. Feather. A Theory of Achievement Motivation. New York: John Wiley, 1966.
- Atkinson, John W. and George H. Litwin. "Achievement Motive and Test Anxiety Concerned as Motive to Approach Success and Motive to Avoid Failure," Journal of Applied and Social Psychology, Vol. 60, No. 1 (January, 1960), 52-63.
- Atkinson, John W. and Walter R. Reitman. "Performance as a Function of Motive, Strength, and Expectancy of Goal Attainment," Journal of Applied and Social Psychology, Vol. 53, No. 3 (November, 1956), 361-366.
- Bachman, Jerald G. "Motivation in a Task Situation as a Function of Ability and Control Over the Task," Journal of Applied and Social Psychology, Vol. 69, No. 3 (September, 1964), 272-281.
- Barnard, Chester I. The Functions of Executives. Cambridge: Harvard University Press, 1938.
- Barry, Ruth and Beverly Wolf. Motives, Values, and Realities: A Framework for Counseling. New York: Teachers College Press, Columbia University, 1965.
- Belcher, D. W. "Toward A Behavioral Science Theory of Wages," Journal of Academy of Management, Vol. 5, No. 2 (August, 1962), 102-115.
- Berelson, Barnard and Gary Steiner. Human Behavior: An Inventory of Findings. New York: Harcourt, Brace, and World, 1964.
- Bevan, William. "Perception: Evolution of A Concept," Psychological Review, Vol. 65, No. 1 (January 19, 1958), 34-53.

- Black, Max. The Social Theories of Talcott Parsons. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964.
- Black, Roger W. "On the Combination of Drive and Incentive Motivation," Psychological Review, Vol. 72, No. 4 (July, 1965), 310-317.
- Blake, R. R. and J. S. Mouton. Group Dynamics: Key to Decision Making. Houston: Gulf Publishing Company, 1961.
- Blai, Boris, Jr. "An Occupational Study of Job and Need Satisfaction," Psychological Reports (Fall, 1963), 13-22.
- Brandon, Arlene C. and Edward E. Saupson. "Demand Characteristics vs. Physiological Needs: A Methodological Critique of the 'New Look' School of Perception," Journal of Social Psychology, Vol. 67, Second Half (December, 1965), 343-355.
- Brehm, Jack W. "Motivational Effects of Cognitive Dissonance," Nebraska Symposium on Motivation. Lincoln, Nebraska: University of Nebraska Press, 1962.
- Brock, Timothy C. and James E. Blackwood. "Dissonance Reduction, Social Comparison, and Modification of Other's Opinions," Journal of Applied and Social Psychology, Vol. 65, No. 5 (November, 1962), 319-324.
- Brouwer, Paul J. "The Power to See Ourselves," Harvard Business Review, Vol. 42, No. 6 (November, 1964), 156-165.
- Brown, Judson Seise. The Motivation of Behavior. New York: McGraw-Hill, 1961.
- Bruning, James L., David K. Sommer and Bill R. Jones. "The Motivational Affects of Cooperation and Competition in the Means-Independent Situation," Journal of Social Psychology, Vol. 68, Second Half (April, 1966), 269-274.
- Buhler, Charlott. "Some Empirican Approaches to the Study of Life's Basic Tendencies," Humanistic Psychology, Vol. 2, No. 2 (Fall, 1962), 91-95.

- _____. "The Human Course of Life in Its Good Aspects," Journal of Humanistic Psychology, Vol. 4, No. 1 (Spring, 1964), 1-17.
- Burke, Ronald J. "Are Herzberg's Motivators and Hygienes Unidimensional?," Journal of Applied Psychology, Vol. 50, No. 4 (August, 1966), 317-321.
- _____. "Relative Contributions of Motivators and Hygienes to Satisfying and Dissatisfying Job Situations," Journal of Industrial Psychology, Vol. 4, No. 1 (1966), 1-6.
- Cantril, Hadley. "The Human Design," Journal of Individual Psychology, Vol. 20, No. 2 (November, 1964), 129-139.
- Cassel, Frank H. "Management Incentive Compensation," California Management Review, Vol. 8, No. 4 (Summer, 1966), 11-20.
- Centers, Richard and Daphne E. Bugental. "Intrinsic and Extrinsic Job Motivations Among Different Segments of the Working Population," Journal of Applied Psychology, Vol. 50, No. 3 (June, 1966), 193-197.
- Chalupsky, A. B. "Incentive Practices as Viewed by Scientists and Managers of Pharmaceutical Laboratories," Personnel Psychology, Vol. 17, No. 4 (Winter, 1964), 385-401.
- Church, R. M. "The Varied Effects of Punishment on Behavior," Psychological Review, Vol. 70, No. 4 (July, 1964), 369-402.
- Clark, Peter B. "Incentive Systems: A Theory of Organizations," Administrative Science Quarterly, Vol. 10, No. 2 (September, 1961), 129-166.
- Collier, Rex M. "The Self Concept in Context of a Holistic-Organismic Theory of Consciousness," Journal of Individual Psychology, Vol. 21, No. 1 (May, 1965), 3-17.
- _____. "The Role of Affect in Behavior: A Holistic-Organismic Approach," Journal of Individual Psychology, Vol. 22, No. 1 (May, 1966), 3-32.

- Costello, T. W. and S. S. Zalkind. Psychology in Administration. Englewood Cliffs: Prentice-Hall, 1963.
- Cottrell, N. B. and D. L. Wack. "Emerging Effect of Cognitive Dissonance Upon Dominant and Subordinate Responses," Journal of Personality and Social Psychology, Vol. 6, No. 2 (June, 1967), 132-138.
- Demmark, Florence, Dorothy Murgatroyd and Albert Pepitone. "Effect of Differential Valuation on Group Level of Aspiration, Decision Time, and Productivity," Journal Of Social Psychology, Vol. 67, Second Half (December, 1965), 201-209.
- Dillman, Everett G. "A Behavioral Science Approach to Personnel Selection," Academy of Management Journal, Vol. 10, No. 2 (June, 1967), 185-198.
- Dollard, John and Frank Auld, Jr. Scoring Human Motives: A Manual. New Haven: Yale University Press, 1959.
- Epstein, Seymour. "The Measurement of Drive and Conflict in Humans: Theory and Experiment," Nebraska Symposium on Motivation (1962), 127-206.
- Edel, Eugene C. "A Study in Managerial Motivation," Personnel Administration, Vol. 29, No. 6 (November-December, 1966), 31-39.
- Ewen, Robert B., Patricia C. Smith, Charles L. Hulin, and Edwin A. Locke. "An Empirical Test of the Herzberg Two-Factor Theory," Journal of Applied Psychology, Vol. 50, No. 6 (December, 1966), 544-550.
- Eysenck, Hans J. Experiments in Motivation. New York: MacMillan, 1964.
- Feather, N. T. "Effects of Prior Success and Failure on Expectations of Success and Subsequent Performance," Journal of Personality and Social Psychology, Vol. 3, No. 3 (March, 1966), 287-298.
- _____. "Mowrer's Revised Two-Factor Theory and the Motive-Expectancy-Value Model," Psychological Review, Vol. 70, No. 6 (November, 1963), 500-515.

- _____. "The Relationship of Expectation of Success to Reported Probability, Task Structure, and Achievement Related Motivation," Journal of Applied and Social Psychology, Vol. 66, No. 3 (March, 1963), 231-238.
- _____. "Level of Aspiration and Performance Variability," Journal of Personality and Social Psychology, Vol. 6, No. 1 (May, 1967), 37-46.
- Feibleman, James K. Mankind Behaving: Human Needs and Material Culture, Springfield, Illinois, 1963.
- Ferguson, Guy. "Motivation and the Motivator," Best's Insurance News, Life Edition, Vol. 66, No. 4 (August, 1965), 24-27.
- Festinger, Leon. A Theory of Cognitive Dissonance. Stanford: Stanford University, 1957.
- Fisherman, Daniel B. "Need and Expectancy as Determinants of Affiliative Behavior in Small Groups," Journal of Personality and Social Psychology, Vol. 4, No. 2 (August, 1966), 155-164.
- French, Earl B. "Perspective: The Motivation of Scientists and Engineers," Academy of Management Journal, Vol. 9, No. 2 (June, 1966), 152-156.
- Friedlander, Frank. "Motivations to Work and Organizational Performance," Journal of Applied Psychology, Vol. 50, No. 2 (April, 1966), 143-152.
- Friedlander, Frank and Eugene Walton. "Positive and Negative Motivations Toward Work," Administrative Science Quarterly, Vol. 9, No. 2 (September, 1964), 194-207.
- Friedlander, Frank. "Underlying Sources of Job Satisfaction," Administrative Science Quarterly, Vol. 47, No. 4 (August, 1963), 246-250.
- Gellerman, Saul W. Motivation and Productivity. New York: American Management Association, 1963.

- Ghei, S. N. "A Cross-Cultural Study of Need Profiles," Journal of Personality and Social Psychology, Vol. 3, No. 5 (May, 1966), 580-585.
- Gibb, Jack R. "Communication and Productivity," Personnel Administration, Vol. 27, No. 1 (January-February, 1964), 9-13 and 45.
- Graen, George B. "Motivator and Hygiene Dimensions for Research and Development Engineers," Journal of Applied Psychology, Vol. 50, No. 6 (December, 1966), 563-566.
- Hall, John Fry. Psychology in Motivation. Chicago: Lippincott, 1961.
- Halpern, Gerald. "Relative Contributions of Motivator and Hygiene Factors to Overall Job Satisfaction," Journal of Applied Psychology, Vol. 50, No. 2 (April, 1966), 198-200.
- Harvey, O. J. (Ed.) Motivation and Social Interaction, Cognitive Determinants. New York: Ronald Press, 1963.
- Heider, Fritz. "The Gestalt Theory of Motivation," Nebraska Symposium on Motivation, Lincoln, Nebraska: University of Nebraska Press, 1960.
- Helson, Harry. "Some Problems in Motivation from the Point of View of the Theory of Adaption Level," Nebraska Symposium on Motivation, Lincoln, Nebraska: University of Nebraska Press, 1966.
- Herzberg, Frederick, Bernard Mausner and B. Snyderman. The Motivation to Work. New York: John Wiley and Sons, 1959.
- Herzberg, Frederick. "The Motivation-Hygiene Concept and Problems of Manpower," Personnel Administration, Vol. 27, No. 1 (January-February, 1964), 3-7.
- Hinrichs, J. R. and L. A. Mischkind. "Empirical and Theoretical Limitation of Two-Factor Hypothesis of Job Satisfaction," Journal of Applied Psychology, Vol. 51, No. 2 (April, 1967), 191-200.

- Hulin, Charles L. and Patricia Cain Smith. "A Linear Model of Job Satisfaction," Journal of Applied Psychology, Vol. 49, No. 3 (June, 1965), 209-216.
- Indik, Bernard P. "Measuring Motivation to Work," Personnel Administration, Vol. 29, No. 6 (November-December, 1966), 39-44.
- Jessor, Richard. "Issues in the Phenomenological Approach to Personality," Journal of Individual Psychology, Vol. 17, No. 1 (May, 1961), 27-28.
- Jones, Marshall R. (Ed.). Human Motivation: A Symposium. Lincoln, Nebraska: University of Nebraska Press, 1965.
- Kahn, Robert L. "Productivity and Job Satisfaction," Personnel Psychology, Vol. 13, No. 3 (Autumn, 1960), 275-287.
- Katz, Daniel. "The Motivational Basis of Organizational Behavior," Behavioral Science, Vol. 9, No. 2 (April, 1964), 131-146.
- Katzell, Raymond, Richard S. Barrett and Treadway C. Parker. "Job Satisfaction, Job Performance, and Situational Characteristics," Journal of Applied Psychology, Vol. 45, No. 2 (April, 1961), 65-72.
- Keimowitz, Robert I, Heinz L. Ansbacher, and Others. "Personality and Achievement in Mathematics," Journal of Individual Psychology, Vol. 16, No. 1 (May, 1960), 84-88.
- Kirchner, Wayne K. "Job Attitudes and Performance," Personnel Administration, Vol. 30, No. 1 (January-February, 1967), 43-45.
- Klinger, Eric. "Fantasy Need Achievement as a Motivational Construct," Psychological Bulletin, Vol. 66, No. 4 (October, 1966), 291-308.
- Knapp, Deanne E., David Knapp and Earl Weick. "Inter-relations Among Measures of Affiliation and Approval Motivation Under Stress and Non-Stress Conditions," Journal of Social Psychology, Vol. 69, Second Half (August, 1966), 223-235.

- Korman, Abraham K. "Self-Esteem Variable in Vocational Choice," Journal of Applied Psychology, Vol. 50, No. 6 (December, 1966), 479-486.
- Krause, Merton S. "A Cognitive Theory of Motivation for Treatment," The Journal of General Psychology, Vol. 75, First Half (July, 1966), 9-19.
- Kuhlen, Raymond G. "Needs, Perceived Need Satisfaction Opportunities, and Satisfaction Within Occupation," Journal of Applied Psychology, Vol. 47, No. 1 (February, 1963), 56-64.
- Lahiri, D. K, and S. Srivastva. "Determinants of Satisfaction in Middle-Management Personnel," Journal of Applied Psychology, Vol. 51, No. 3 (June, 1967), 254-265.
- Lawler, Edward E. III. "The Mythology of Management Compensation," California Management Review, Vol. 9, No. 1 (Fall, 1966), 11-22.
- _____. "Ability as a Moderator of the Relationship Between Job Attitudes and Job Performance," Personnel Psychology, Vol. 19, No. 2 (Summer, 1966), 153-164.
- _____. "Attitude Surveys and Job Performance," Personnel Administration, Vol. 46, No. 5 (October-September, 1967), pp. 3-5, 22-24.
- Lawrie, John W. "Motivation and Organization," Personnel Journal, Vol. 46, No. 1 (January, 1967), 42-49.
- Leavitt, Harold J. Managerial Psychology, 2nd Ed. Chicago: The University of Chicago Press, 1964.
- Lefcourt, Herbert M. "Internal Versus External Control of Reinforcement: A Review," Psychological Bulletin, Vol. 65, No. 4 (April, 1966), 206-220.
- Lerner, Melvin J. "Evaluation of Performance as a Function of Peformes' Reward and Attractiveness," Journal of Personality and Social Psychology, Vol. 2, No. 2 (August, 1965), 278-281.
- Levenstein, A. Why People Work. New York: Crowell-Collier, 1962.

Lewin, Kurt. The Conceptual Representation and the Measurement of Psychological Forces. Durham, N.C.: Duke University Press, 1938.

_____. A Dynamic Theory of Personality. New York: McGraw-Hill, 1935.

_____. Principles of Topological Psychology. New York: McGraw-Hill, 1936.

Likert, Rensis. New Patterns of Management. New York: McGraw-Hill, 1961.

Lindzey, Gardners (Ed.) Assessment of Human Motives. New York: Rinehart, 1958.

Lodahl, Thomas M. and Mathilde Kejner. "The Definition and Measurement of Job Involvement," Journal of Applied Psychology, Vol. 49, No. 1 (February, 1965), 24-33.

Logan, Frank A. Incentive. New Haven: Yale University Press, 1960.

Luchins, Abraham S. and Edith H. Luchins. "Some Approaches to Studying the Individual," Humanistic Psychology, Vol. 5, No. 1 (Spring, 1965), 82-89.

McClelland, David C. "Toward a Theory of Motive Acquisition," American Psychologists, Vol. 20, No. 5 (May, 1965), 321-333.

_____. Studies in Motivation. New York: Appleton-Century-Crofts, 1955.

_____ and Others. The Achievement Motive. New York: Appleton-Century-Crofts, 1953.

McGregor, Douglas. Human Side of Enterprise. New York: McGraw-Hill, 1960.

_____. Leadership and Motivation. Cambridge: M.I.T. Press, 1966.

Madsen, Kaj Berg. Theories of Motivation; A Comparative Study of Modern Theories of Motivation. Cleveland: H. Allen, 1961.

Maier, Norman R. F. Psychology in Industry. Third Edition. Boston: Houghton Mifflin Company, 1965.

_____ and L. R. Hoffman. "Financial Incentives and Group Decision in Motivating Change," Journal of Social Psychology, Vol. 64, Second Half (December, 1964), 369-378.

Malinovsky, Michael R. and John R. Barry. "Determinants of Work Attitudes," Journal of Applied Psychology, Vol. 49, No. 6 (December, 1965), 446-451.

March, James G. and Herbert A. Simon. Organizations. New York: John Wiley and Sons, 1958.

Maslow, Abraham H. Motivation and Personality. New York: Harper, 1954.

_____. Eupsychian Management. Homewood, Illinois: Richard D. Irwin and the Dorsey Press, 1965.

_____. Toward a Psychology of Being. Princeton, N.J.: Van Nostrand, 1962.

Megginson, L. C. and K. H. Chung. "A Striving for Excellence," Phi Kappa Phi Journal, Vol. XLVII, No. 3 (Summer, 1967), pp. 16-24.

Meissner, W. W. "Intervening Constructs--Dimensions of Controversy," Psychological Review, Vol. 67, No. 1 (January, 1960), 51-72.

Meyer, Herbert H. and William B. Walker. "Need for Achievement and Risk Preferences as They Relate to Attitudes Toward Reward Systems and Performance Appraisal in an Industrial Setting," Journal of Applied Psychology, Vol. 45, No. 4 (August, 1961), 251-256.

- Miller, Edwin L. "Job Attitudes of National Union Officials: Perceptions of Importance of Certain Personality Traits as a Function of Job Level and Union Organization Structure," Personnel Psychology, Vol. 19, No. 4 (Winter, 1966), 395-410.
- Mischel, Walter and Joan Grusec. "Waiting for Rewards and Punishments: Effects of Time and Probability on Choice," Journal of Personality and Social Psychology, Vol. 5, No. 1 (January, 1967), 24-31.
- Morris, John L. "Propensity for Risk Taking as Determinant of Vocational Choice: An Extension of the Theory of Achievement Motivation," Journal of Personality and Social Psychology, Vol. 3, No. 3 (March, 1967), 328-335.
- Mosel, James N. "Incentive Supervision and Probability," Personnel Administration, Vol. 25, No. 1 (January, February, 1962), 9-14.
- Moulton, Robert W. "Effects of Success and Failure of Level of Aspiration as Related to Achievement Motives," Journal of Personality and Social Psychology, Vol. 1, No. 5 (May, 1965), 399-406.
- Mumeke, Leslie E. "Motivation Through Management," Personnel Journal, Vol. 46, No. 2 (February, 1967), 96-101.
- Murray, Edward J. Motivation and Emotion. Englewood Cliffs, N.J.: Prentice-Hall, 1964.
- Myers, M. Scott. "Who Are Your Motivated Workers?" Business Review, Vol. 42, No. 1 (January-February, 1964), 73-88.
- _____. "Conditions for Manager Motivation," Harvard Business Review, Vol. 44, No. 1 (January-February, 1966), 58-71.
- Nameche, Gene F. "Two Pictures of Man," Journal of Humanistic Psychology, Vol. 1, No. 1 (Spring, 1961), 70-87.
- Olds, James. The Growth and Structure of Motives: Psychological Studies in the Theory of Action, Glencoe, Illinois: Free Press, 1956.

- Opsahl, R. L. and M. D. Dunnette. "The Role of Financial Compensation in Industrial Motivation," Psychological Bulletin, Vol. 66, No. 2 (August, 1966), 94-118.
- Oxley, G. M. and G. B. Oxley. "Expectations of Excellence," California Management Review, Vol. 6, No. 1 (Fall, 1963), 13-22.
- Palmer, George j., Jr. and Earnest J. McCormick. "A Factor Analysis of Job Activities," Journal of Applied Psychology, Vol. 45, No. 5 (October, 1961), 289-294.
- Parsons, Talcott. Essays in Sociological Theory. New York: Free Press of Glencoe, 1954.
- Patterson, C. H. "A Unitary Theory of Motivation and Its Counseling Implications," Journal of Individual Psychology, Vol. 20, No. 1 (May, 1964), 17-31.
- Peters, Richard Stanley. The Concept of Motivation. New York: Humanities Press, 1958.
- Pierce, James V. "Personality and Achievement Among Able High School Boys," Journal of Individual Psychology, Vol. 17, No. 1 (May, 1961), 102-107.
- Pilisuch, Meric. "Cognitive Balance and Self-Relevant Attitudes," Journal of Applied and Social Psychology, Vol. 65, No. 2 (August, 1962), 95-103.
- Porter, Lyman W. "A Study of Perceived Need Satisfaction in Bottom and Middle Management Jobs," Journal of Applied Psychology, Vol. 45, No. 1 (February, 1961), 1-10.
- _____. "Job Attitudes in Management: I. Perceived Deficiencies in Need Fulfillment as a Function of Job Level," Journal of Applied Psychology, Vol. 46, No. 6 (December, 1962), 375-384.
- _____. "Job Attitudes in Management: II. Perceived Importance of Needs as a Function of Job Level," Journal of Applied Psychology, Vol. 47, No. 2 (April, 1963), 141-148.

- _____. "Job Attitudes in Management: IV. Perceived Deficiencies in Need Fulfillment as a Function of Size of a Company," Journal of Applied Psychology, Vol. 47, No. 6 (December, 1963), 386-397.
- Prien, Erich P., Jay L. Otis, Joel T. Campbell, and Shoukry Saleh. "Comparison of Methods of Measurement of Job Attitudes," Journal of Industrial Psychology, Vol. 2, No. 4 (December, 1964), 87-97.
- Pugh, D. S. "Modern Organization Theory," A Psychological Bulletin, Vol. 66, No. 4 (October, 1966), 235-251.
- Raynor, Joel O. and Charles P. Smith. "Achievement-Related Motives and Risk-Taking in Games of Skill and Chance," Journal of Personality, Vol. 34, No. 2 (June, 1966), 176-198.
- Reitman, Walter R. "Motivational Induction and the Behavior Correlates of the Achievement and Affiliation Motives," Journal of Applied and Social Psychology, Vol. 60, No. 1 (January, 1960), 8-13.
- Rethlingshafer, Dorothy. Motivation as Related to Personality. New York: McGraw-Hill, 1963.
- Ripple, Lilian, Ernestina Alexander and Bernice W. Polemis. Motivation, Capacity, and Opportunity: Studies in Casework Theory and Practice. School of Social Service Administration. Chicago: University of Chicago, 1964.
- Rodney, Thomas C. "Can Money Motivate Better Job Performance?" Personnel Administration, Vol. 30, No. 2 (March-April, 1967), 23-29.
- Roethlisberger, F. J. and W. J. Dickson. Management and the Worker. Cambridge: Harvard University Press, 1939.
- Rosen, Hjalmar and Charles G. Weaver. "Motivation in Management: A Study of Four Managerial Levels," Journal of Applied Psychology, Vol. 44, No. 6 (December, 1960), 386-392.

- Rosenberg, Milton J. "Cognitive Structure and Attitudinal Affect," Journal of Applied and Social Psychology, Vol. 53, No. 3 (November, 1956), 367-372.
- Rosenfeld, Howard M. "Social Choice Conceived as a Level of Aspiration," Journal of Applied and Social Psychology, Vol. 68, No. 5 (May, 1964), 491-499.
- Schreier, Fred T. Human Motivation; Probability and Meaning. Glencoe, Illinois: Free Press, 1957.
- Shepard, Roger N. "Stimulus and Response Generalization: Deduction of the Generalization Gradient from a Trace Model," Psychological Review, Vol. 65, No. 4 (July, 1958), 242-256.
- Siegel, Sidney. "Level of Aspiration and Decision Making," Psychological Review, Vol. 64, No. 4 (July, 1957), 253-262.
- Signell, Karen A. "Cognitive Complexity in Person Perception and Nation Perception: A Developmental Approach," Journal of Personality, Vol. 34, No. 4 (December, 1966), 517-537.
- Simon, Herbert A. Motivational and Emotional Controls of Cognition. Pittsburgh: Graduate School of Industrial Administration, Carnegie Institute of Technology, 1967.
- Sistrunk, Francis and John W. McDavid. "Achievement Motivation, Affiliation Motivation, and Task Difficulty as Determinent of Social Conformity," Journal of Social Psychology, Vol. 66, First Half (June, 1965), 41-49.
- Stancey, Chalmers L. and Manfred F. DeMartino. Understanding Human Motivation. Cleveland: Howard Allen, Inc., 1958.
- Starbuck, William H. "Level of Aspiration," Psychological Review, Vol. 70, No. 1 (January, 1963), 51-60.
- Stogdill, Ralph M. Team Achievement Under Higher Motivation. Columbus: Bureau of Business Research, College of Commerce and Administration, Ohio State University, 1963.

- Stringer, Robert A., Jr. "Achievement Motivation and Management Control," Personnel Administration, Vol. 29, No. 6 (November-December, 1966), 3-5 and 14-16.
- Tajfel, H. "Value and the Perceptual Judgement of Magnitude," Psychological Review, Vol. 64, No. 3 (May, 1957), 192-204.
- Taylor, Charles. The Explanation of Behavior. New York: Humanistics Press, 1964.
- Taylor, James G. The Behavioral Basis of Perception. New Haven: Yale University Press, 1962.
- Thomas, Edwin J. and Alvin Zander. "The Relationship of Goal Structure to Motivation Under Extreme Conditions," Journal of Individual Psychology, Vol. 15, No. 1 (May, 1959), 121-127.
- Tolman, Edward C. Behavior and Psychological Man: Essays in Motivation and Learning. Berkeley, California: University of California Press, 1951.
- Viteles, Morris S. Motivation and Morale in Industry. New York: Norton, 1953.
- Von Fieandt, Kai. "Toward a Unitary Theory of Perception," Psychological Review, Vol. 65, No. 5 (September, 1958), 315-320.
- Vroom, Victor H. "Ego-Involvement, Job Satisfaction, and Job Performance," Personnel Psychology, Vol. 5, No. 2 (Summer, 1962), 159-177.
- _____. Work and Motivation. New York: John Wiley and Sons, Inc., 1964.
- _____. Some Personality Determinants of the Effects of Participation. Englewood Cliffs, N.J.: Prentice-Hall, 1960.
- Waterman, Caroline K. and Edward S. Katkin. "Energizing (Dynamogenic) Effect on Cognitive Dissonance on Task Performance," Journal of Personality and Social Psychology, Vol. 6, No. 2 (June, 1967), 126-131.

- Watts, William A. "Commitment Under Conditions of Risk," Journal of Personality and Social Psychology, Vol. 3, No. 5 (May, 1966), 507-515.
- Weiner, Bernard. "Achievement Motivation and Task Recall in Competitive Situations," Journal of Personality and Social Psychology, Vol. 3, No. 6 (June, 1966), 693-696.
- _____. "Role of Success and Failure in the Learning of Easy and Complex Tasks," Journal of Personality and Social Psychology, Vol. 3, No. 3 (March, 1966), 339-344.
- Wernimont, Paul F. "Intrinsic and Extrinsic Factors in Job Satisfaction," Journal of Applied Psychology, Vol. 50, No. 1 (February, 1966), 41-50.
- White, Robert W. "Motivation Reconsidered: The Concept of Competence," Psychological Review, Vol. 66, No. 5 (September, 1959), 297-333.
- Whyte, William F. Money and Motivation. New York: Harper and Brothers, 1955.
- Worell, Leonard. "The Effect of Goal Value Upon Expectancy," Journal of Applied and Social Psychology, Vol. 53, No. 1 (July, 1956), 48-53.
- Young, Paul Thomas, "The Role of Affective Processes in Learning and Motivation," Psychological Review, Vol. 66, No. 2 (March, 1959), 104-125.
- _____. Motivation of Behavior: The Fundamental Determinants of Human and Animal Activity. New York: John Wiley, 1936.
- _____. Motivation and Emotion. New York: John Wiley and Sons, 1961.
- Zaleznik, Abraham, C. R. Christensen, and F. J. Roethlisberger. The Motivation, Productivity, and Satisfaction of Work. Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1958.

APPENDIX I. QUESTIONNAIRE

Introduction: The purpose of the study is to build the inventory of students' views about their college life. This questionnaire will be handled by one of the research groups at Louisiana State University. Therefore, it will not be seen by anyone except the research personnel.

Instruction: Check one item for each question.

Motive Measures

	<u>Agree</u>		<u>Disagree</u>		
	<u>Strongly</u>	<u>Mildly</u>	<u>Undecided</u>	<u>Mildly</u>	<u>Strongly</u>
1. While I am studying for the course, I tend to be fascinated with acquiring new knowledge and gaining new experience.	5	4	3	2	1
2. I feel that I should make a good grade for the course because otherwise I would feel ashamed of myself.	5	4	3	2	1
3. I prefer to study with a friend who is taking the same course with me rather than study by myself.	5	4	3	2	1
4. One of the primary reasons I study as hard as I do is to assure myself of having a good job which will give me economic and social security.	5	4	3	2	1

	<u>Agree</u>		<u>Undecided</u>	<u>Disagree</u>	
	<u>Strongly</u>	<u>Mildly</u>		<u>Mildly</u>	<u>Strongly</u>
5. I feel that I must study because studying is a necessary means for acquiring the economic means of survival.	5	4	3	2	1
6. At times when I should be studying, I tend to find something that intrigues me more than studying, thereby keeping me away from studying.	5	4	3	2	1
7. I do not feel that people will respect me less if I do not make a good grade in the course.	5	4	3	2	1
8. If I do not study hard, I will probably have more friends with whom I could enjoy social life.	1	2	3	4	5
9. Regardless of whether I graduate from the University or not, I can still find a good job which will give me economic and social security.	5	4	3	2	1
10. I feel that if I do not study at the University, I can probably find a job that will provide me a necessary means of economic necessity for survival.	1	2	3	4	5

		<u>Agree</u>		<u>Disagree</u>	
		<u>Strongly</u>	<u>Mildly</u>	<u>Undecided</u>	<u>Mildly</u> <u>Strongly</u>
<u>Incentive Measures</u>					
11.	The potential grade I will receive in the course is probably the most important factor that induces me to study as hard as I do.	5	4	3	2 1
12.	As employers tend to look at your grade point average when they consider you as a prospective employee, I feel that I have to study the course as hard as I do.	5	4	3	2 1
13.	I feel that the teacher's instructions, including assignments, supervision, tests, stimulate me to study.	5	4	3	2 1
14.	I feel that the fellow students in the class stimulate me to study harder for the course.	5	4	3	2 1
15.	I feel that the subject matter of the course is very interesting.	5	4	3	2 1
16.	If I know that my performance will not be graded, I feel that I will not study for the course as hard as I do.	1	2	3	4 5

	<u>Agree</u>		<u>Disagree</u>		
	<u>Strongly</u>	<u>Mildly</u>	<u>Undecided</u>	<u>Mildly</u>	<u>Strongly</u>
17. If I know that employers will not look at the grade point average, I feel that I will not study for the course as much as I do.	1	2	3	4	5
18. If the teacher does not assign homework and other preparation, I will probably not prepare for the course as much as I do.	1	2	3	4	5
19. It is not important to me whether other students in the class study or not.	5	4	3	2	1
20. I feel that I would not take the course if the University did not require me to take it in my curriculum.	5	4	3	2	1

Expectancy Measures

21. With my relatively high mental ability, it will not be so hard to make a good grade in the course.	5	4	3	2	1
22. As I used to make a good grade point average in the past, I can reasonably expect to make another good grade in the course also.	5	4	3	2	1

	<u>Very Easy</u>	<u>Easy</u>	<u>Middle</u>	<u>Hard</u>	<u>Very Hard</u>
23. I feel that the subject matter in the course is relatively easier or harder than other courses.	5	4	3	2	1
24. I feel that the teacher in the class is relatively easier or harder on his grading exams than other teachers.	5	4	3	2	1

	<u>Very Poor</u>	<u>Poor</u>	<u>Middle</u>	<u>Capable</u>	<u>Very Capable</u>
25. I feel that other students in the class are relatively more or less capable than I am.	5	4	3	2	1

	<u>Agree</u>			<u>Disagree</u>	
	<u>Strongly</u>	<u>Mildly</u>	<u>Undecided</u>	<u>Mildly</u>	<u>Strongly</u>
26. Carrying so many courses with my limited mental ability, it will be tough for me to make a good grade in the course.	5	4	3	2	1
27. Somehow I have made poor grades in the past, so that I feel to make another poor grade in this course also.	5	4	3	2	1
28. There are some materials we have covered in the course that I can hardly understand.	5	4	3	2	1

		<u>Agree</u>		<u>Disagree</u>	
		<u>Strongly</u>	<u>Mildly</u>	<u>Undecided</u>	<u>Mildly</u> <u>Strongly</u>
29.	Somehow I feel that the teacher in the class will give me a bad grade for the course.	5	4	3	2 1
30.	Somehow I do not feel that I can make a better grade than other students in the class.	5	4	3	2 1

APPENDIX II

INTERCORRELATIONS BETWEEN ITEMS

A. MOTIVE MEASURES

Items	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	P
Q1		<u>.15</u>	.04	<u>.33</u>	.03	<u>-.22</u>	.05	.06	-.04	<u>.16</u>	<u>.15</u>
Q2			<u>.17</u>	<u>.22</u>	<u>.34</u>	-.10	<u>-.31</u>	.02	-.13	-.12	.12
Q3				.12	<u>.30</u>	-.03	<u>-.16</u>	-.05	-.12	-.00	-.10
Q4					<u>.42</u>	-.06	-.01	-.09	<u>-.31</u>	-.08	.14
Q5						.00	-.07	-.05	<u>-.22</u>	-.12	.07
Q6							.13	-.08	<u>.16</u>	<u>.20</u>	<u>-.33</u>
Q7								.05	<u>.22</u>	<u>.16</u>	<u>-.20</u>
Q8									.12	<u>.22</u>	<u>-.20</u>
Q9										<u>.37</u>	<u>-.38</u>
Q10											<u>-.38</u>
X	3.7	3.9	2.8	4.1	3.8	4.1	3.0	3.7	2.6	2.8	
σ	1.0	1.1	1.5	1.0	1.1	1.0	1.3	1.3	1.2	1.3	

r.05 = .15 (Single underlined); r.01 = .19 (Double underlined)

P = Performance; Q1 → Q5 = Approach motive measures;
Q6 → Q10 = Avoidance motive measures.

B. INCENTIVE MEASURES

Items	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	P
Q11		<u>.48</u>	-.03	.14	-.14	-.05	-.05	<u>.21</u>	.03	.07	-.01
Q12			-.01	<u>.19</u>	.05	-.12	<u>-.17</u>	<u>.25</u>	-.05	.00	<u>-.25</u>
Q13				.12	<u>.27</u>	.09	.04	<u>-.24</u>	.10	-.11	-.04
Q14					.03	.11	-.10	.09	<u>-.29</u>	-.08	-.00
Q15						.03	.09	<u>-.22</u>	<u>.23</u>	<u>-.21</u>	.08
Q16							<u>.47</u>	<u>.16</u>	.07	<u>-.22</u>	-.14
Q17								.02	<u>-.18</u>	.08	<u>-.27</u>
Q18									-.04	.14	.11
Q19										-.10	.02
Q20											-.07
X	4.1	4.0	3.2	2.9	3.2	2.1	2.7	2.3	3.8	2.6	
σ	1.1	1.2	1.3	1.2	1.3	1.1	1.2	1.3	1.2	1.2	

r.05 = .15 (Single underlined); r.01 = .19 (Double underlined)

P = Performance; Q11 \longrightarrow Q15 = Approach incentive measures;
Q16 \longrightarrow Q20 = Avoidance incentive measures.

C. EXPECTANCY MEASURES

Items	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	P
Q21		<u>.58</u>	<u>.41</u>	.14	<u>.29</u>	<u>-.39</u>	<u>-.19</u>	<u>-.20</u>	<u>-.20</u>	<u>-.40</u>	<u>.37</u>
Q22			<u>.25</u>	.02	<u>.17</u>	<u>-.29</u>	-.03	<u>-.19</u>	<u>-.15</u>	<u>-.32</u>	<u>.29</u>
Q23				<u>.30</u>	.13	<u>-.37</u>	<u>-.24</u>	<u>-.34</u>	<u>-.28</u>	<u>-.29</u>	<u>.22</u>
Q24					.09	-.01	.01	-.09	-.06	-.12	<u>.19</u>
Q25						-.07	-.02	-.11	-.11	<u>-.18</u>	<u>.21</u>
Q26							<u>.29</u>	.12	<u>.39</u>	<u>.45</u>	<u>-.36</u>
Q27								.07	<u>.29</u>	<u>.37</u>	<u>-.15</u>
Q28									<u>.22</u>	<u>.34</u>	<u>-.17</u>
Q29										<u>.44</u>	<u>-.21</u>
Q30											<u>-.41</u>
X	3.0	3.0	3.4	2.5	2.7	2.4	1.6	2.4	2.0	2.1	
	1.2	1.2	0.8	0.8	0.6	1.1	0.8	1.2	1.1	1.2	

r.05 = .15 (Single underlined); r.01 = .19 (Double underlined)

P = Performance; Q21 → Q25 = Approach expectancy measures;
Q26 → Q27 = Avoidance expectancy measures.

VITA

Kae Hoon Chung, son of Dong Y. and In S. Chung, was born in Kyungki, Korea, on January 26, 1937. He is married to Young S. Chung and has two children: Jeehyun (7) and James (1).

He attended Nacksang Elementary School in Kyungki, and graduated from Yongsan High School in Seoul in 1955. He received a B.A. degree in Sociology from Seoul National University, Seoul, in March, 1959. After graduation from the university, he worked for the Agricultural Bank in Korea as a teller for two years, until he joined the Republic of Korea Army as a private. During his years at the bank and in the military service, he took business courses at the Graduate School of Business Administration, Korea University, Seoul, and upon discharge from the service, he came to the United States of America for further study in business.

He began graduate studies at Louisiana State University, Baton Rouge, Louisiana, in February, 1963. He received his M.B.A. degree from the institution in May, 1965 and

continued studying for the Ph.D. degree at the same institution. During the years of graduate work, he served as a graduate assistant. His duties included teaching and assisting the faculty with research projects. He was the recipient of the L.S.U. Graduate School's Dissertation Fellowship in 1967.

Currently, he is a Ph.D. degree candidate at Louisiana State University and is Assistant Professor of Management at Northern Illinois University, DeKalb, Illinois. He is a member of the American Statistical Association and has applied for membership in the Academy of Management.

EXAMINATION AND THESIS REPORT

Candidate: Kae Hoon Chung

Major Field: Management

Title of Thesis: DEVELOPING A COMPREHENSIVE MODEL OF MOTIVATION
AND PERFORMANCE

Approved:

Sam C. Megginson
Major Professor and Chairman

Mar Goodrich
Dean of the Graduate School

EXAMINING COMMITTEE:

Vincent E. Angelone

H. G. Hicks

Raymond L. Leiker

W. F. Szymanski

Date of Examination:

December 14, 1967